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56924

NAME OF AUTHOR/*NOM DE L'AUTEUR* DAVID THORSTEIN BREKKE

TITLE OF THESIS/*TITRE DE LA THÈSE* A Descriptive Survey of Outdoor Education in Whitehorse, Yukon.

UNIVERSITY/*UNIVERSITÉ* Alberta (Edmonton)

DEGREE FOR WHICH THESIS WAS PRESENTED/ *GRADE POUR LEQUEL CETTE THÈSE FUT PRÉSENTÉE* Master of Education

YEAR THIS DEGREE CONFERRED/*ANNÉE D'OBTENTION DE CE GRADE* 1977

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A DESCRIPTIVE SURVEY OF OUTDOOR EDUCATION IN WHITEHORSE, YUKON

by

© David Thorstein Brekke

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF EDUCATION

DEPARTMENT OF ELEMENTARY EDUCATION

EDMONTON, ALBERTA
FALL, 1977

THE UNIVERSITY OF ALBERTA

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ABSTRACT

For centuries some educators considered outdoor education to be an important aspect of education. With the growing awareness of the finiteness of the Earth and its resources, as well as a concern that mechanization does not appear to meet all of man's needs, outdoor education is increasing in importance. At the time of the study several teachers and principals in Whitehorse were involved to varying degrees with outdoor education, but little was known about the readiness of teachers to become more involved in outdoor education. Little was known about the value that parents and students placed on outdoor education. The purpose of this study was to acquire an indication of the readiness of teachers, parents, and students of Whitehorse for outdoor education. The Rogers and Shoemaker change model was utilized as a framework for acquiring an indication of this readiness.

The procedure of the study involved questionnaire/opinionnaires aimed at all grades VI, IX and XII students, their parents or guardians, and all kindergarten to grade XII teachers of Whitehorse.

Four instruments based on related literature (see Appendix A) were developed by the researcher. Modifications were made to these instruments on the recommendations of experts and the results of questionnaire/opinionnaire responses of trial respondents.

The data was collected during May, 1977. The questionnaire/opinionnaire return rates were: students 100%,

teachers 55.2%, and parents 40.5%.

The survey results indicated that very few teachers had taken university courses related to outdoor education, but almost half had attended in-services. Of the parents questionnaires received, almost half were completed by both parents and one-third by the mothers. Approximately 90% of the children had been involved in outdoor education activities.

The findings related to "readiness" indicated that teachers generally placed a high value on outdoor education and considered that a larger amount of outdoor education, than they presently offered their students, to be of good value. Developing programs was considered to be the most difficult and time-consuming aspect of outdoor education. No solid commitment was considered necessary in order to try outdoor education. The "individual" decision to become involved appeared to have the best long-range effect. The most desirable "communication channel" was observation of lessons demonstrating the implementation of outdoor education. A large majority of parents and students placed a high value on outdoor education, and community agencies were reported as giving good support to the outdoor education programs. Along with the "high value" placed on outdoor education by most teachers, they also indicated varying degrees of "willingness and ability to execute" outdoor education programs.

ACKNOWLEDGEMENTS

Sincere thanks are expressed to the large number of people who made possible the completion of this research and related report.

Participating students, parents, teachers, and administrators played an indispensable role in the development of the instruments and the collection of research data by taking time to contribute to the study.

The Government of the Yukon Territory, through its sabattical leave program, gave financial assistance to the study.

The Roberts family provided for almost all my needs during data collection and other friends also furnished superb cuisine, which made that stage of the study most enjoyable. Dave Pritchard's and Martyn Williams' "readiness" for the study was encouraging when the feasibility of carrying out the study was being considered.

Dr. S. Hunka, John Anderson, and the personnel at Educational Research Services were very helpful in processing the data. Dr. Al MacKay gave support and encouragement, and Dr. Daiyo Sawada furnished assistance at different stages of the research. Dr. Jim Parsons' help, with his concern over clarity of expression, was extremely helpful in the reporting aspect of the study.

The thesis adviser, Dr. Don Massey, gave very sound advice in the planning, conducting, and reporting stages of the study, when he could be caught. Combining bad weather and illness with reading over my material during his holidays,

he deserves another vacation.

Mrs. Sue Duxbury's quality typing service furnished encouragement when other aspects of the writing appeared to be progressing so slowly.

My wife, Irene, assisted with proof-reading and, along with Alison and Marnie, showed understanding and encouragement throughout the study.

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CHAPTER I

STATEMENT OF THE PROBLEM

Introduction

There is a growing concern for human survival. Meadows, Meadows, Randers, and Behren (1972) and Mesarovic and Pestel (1974) expressed the idea that the increasing human population and demands on resources coupled with dwindling supplies are limiting our choices for the future. Using computors in their projections, they predicted a world catastrophe within the next century unless the idea that the earth is finite is accepted by mankind and responded to with adequate solutions.

The Belgrade Charter, unanimously adopted at the United Nations Educational, Scientific, and Cultural Organization Environmental Education Workshop held in 1975, expressed the need for a new global ethic.

> "... An ethic which espouses attitudes and behaviour for individuals and societies which are consonant with humanity's place within the biosphere - which recognizes and sensitively responds to the complex and ever-changing relationships between man and nature and between man and man." (Belgrade Charter, 1975, p. 57)

The role of schools in developing these concerns was first expressed in Alberta by the Commission on Educational Planning:

> "In the face of rapid deterioration of earth's interlocked life-support systems, we will need to explore quickly and accurately all the probabilities for survival - both to sustain life and to give it meaning. Environmental education, therefore, must dominate our future horizon - if there is to be a future horizon." (1972, p. 192)

It was expressed by the Alberta Department of Education:

> "The root problems of our environmental crisis are associated with three broad but interrelated areas: excessive population, poor conservation, and pollution. However, the major problem is man! Man's ignorance of ecological concepts and processes, his insensitivity to the environment, and his lack of constructive action in relation to the environment, constitute the kernel of the problem. Our crisis arises largely from a 'caveman mentality' that assumes that the environment can absorb anything that man dumps into it. As Pogo said, 'We have met the enemy and he is us!'" (1974, p. 1)

Industry has joined educators in their concern about outdoor and environmental education. Alberta energy companies have funded the Society, Environment and Energy Development Studies Foundation (S.E.E.D.S.) whose basic purpose is to develop curriculum in environmental and outdoor education. The companies:

> "... have committed to budget about $500,000 for the first three years of the foundation's work ... Dr. Westbury, executive director, was emphatic that S.E.E.D.S. is not another campaign designed by industry to spread propaganda." (Edmonton Journal, Feb. 4, 1977, p. 17)

> "The idea is to develop a better informed public. When energy issues arise, all sectors will benefit if the general public has the basis from which to make an objective, rather than an emotional decision." (Edmonton Journal, Feb. 12, 1977, p. 65)

Statement of the Problem

To encourage development of this new global ethic, which recognizes and responds to man's relationship between man and nature and between man and man, establishing relationships between the world outside the school and classroom learning is considered by many educators and parents to be a valuable endeavor. In order to determine feasible curriculum development and implementation, a knowledge of the readiness of the teachers and the values placed on outdoor education by the students and parents would prove to be important.

Rogers and Shoemaker (1971) described variables that determine the rate of adoption of a curriculum innovation. An indication of the readiness of teachers for outdoor education is to be determined using the variables outlined on page 4 (see Figure 1).

Definitions

In a thorough discussion of curriculum development for outdoor/environmental education, it is important to clearly define several terms. These terms include:

Curriculum: "A curriculum is an evolving educational phenomenon encompassing goals and content" (Stewart, 1974, p. 69).

Curriculum development: "Curriculum development is the continuing process through which curricula are produced" (Stewart, 1974, p. 69).

Education:

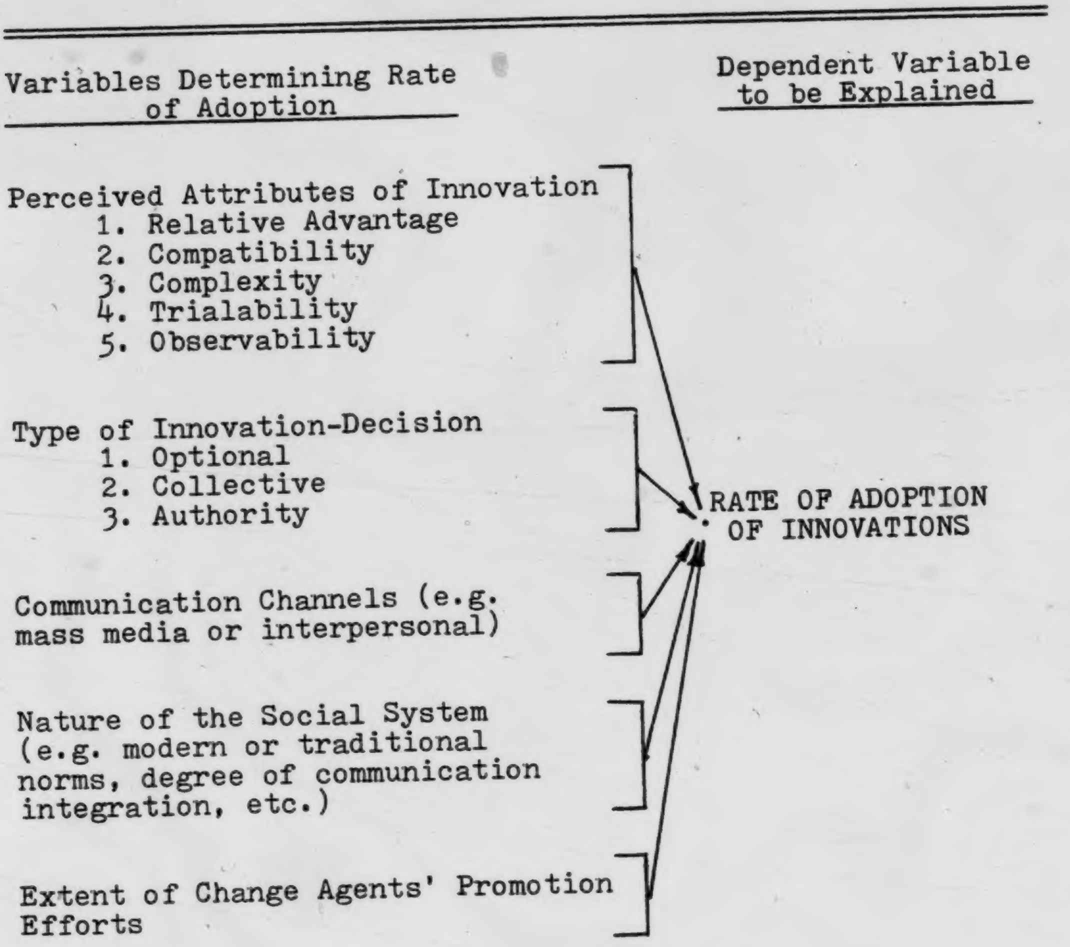
> "the aggregate of all the processes by means of which a person develops abilities, attitudes, and other forms of behaviors of positive value in the society in which he lives; the term is not restricted to formal schooling." (McInnis & Albrecht, 1975, p. 459)

Environmental Education: Education that relates

> "... to helping both individuals and groups to: acquire awareness of and knowledge about the environment and its allied problems; acquire new social attitudes of concern that will motivate active participation; acquire the skills for solving problems; be able to

Figure I

A Paradigm of Variables Determining the Rate of Adoption of Innovations



Variables Determining Rate of Adoption

Dependent Variable to be Explained

Perceived Attributes of Innovation
1. Relative Advantage
2. Compatibility
3. Complexity
4. Trialability
5. Observability

Type of Innovation-Decision
1. Optional
2. Collective
3. Authority

Communication Channels (e.g. mass media or interpersonal)

Nature of the Social System (e.g. modern or traditional norms, degree of communication integration, etc.)

Extent of Change Agents' Promotion Efforts

RATE OF ADOPTION OF INNOVATIONS

(Rogers and Shoemaker, 1971, p. 158)

> evaluate environmental measures and education programs in terms of ecological, political, economic, social, aesthetic and educational factors; and participate in appropriate action to solve problems." (Belgrade Charter, 1975, p. 58)

Environmental education is aimed at developing an appreciation for the natural and man-made environment and awareness of the inter-relatedness of all actions.

Outdoor Education: For the purpose of this study, outdoor education is defined as any part of a school program outside the school building, excluding regular physical education classes which are not involved with preparation for more extensive outdoor activities. Outdoor education activities could include short nature walks, studies in or near the school yard, week-long canoe trips, orienteering, trips to places like fire halls, bakeries, mines, territorial council or museums. (Outdoor education is a primary part of environmental education.)

Readiness: For the purpose of this study readiness is defined as seeing value in and having the willingness and ability to execute.

The Setting of the Study

This study was carried out in Whitehorse, Yukon Territory, a city of about 15,000 people, in the spring of 1977. At the time of this study, a considerable amount of work in outdoor education had been done by a number of teachers. It is to be hoped that more extensive outdoor education programs will be developed by the Department of Education that will offer the opportunity to all students to increase their awareness of the interrelatedness of the world outside the school. This awareness should lead to a rational concern for both the positive and negative aspects of environmental issues which the students will face in their adult lives. So far, the opportunity has not been offered to all students.

Present Involvement in Outdoor Education

The fact that some people in Whitehorse place a high value on outdoor education is suggested in several ways.

The Teachers' Involvement

Teachers have arranged to take their classes on nature studies as well as visits to historical sites and local industries. This practice has received strong encouragement from the Education Week Committee of the Yukon Teachers' Association. The Professional Development Committee of the Yukon Teachers' Association has been helpful in allocating funds at the request of school staffs, for teacher in-services in outdoor education.

School staffs have held outdoor education in-services where their own outdoor education teachers have led the activities; alternately, teachers have arranged for experts in various fields to act as resource persons.

Some teachers and principals have carried out well-received programs of outdoor involvement of up to a week in length which have generally been strongly supported by the school administration. These have involved canoe trips, geographical studies, rock climbing, camps, and ski tours.

The Yukon Department of Education's Participation

Although the leadership in outdoor education has come primarily from teachers, they have been supported by the Department of Education. The Department has given leading outdoor education teachers free time to assist other schools with teacher in-services as well as school outdoor education programs.

Other Yukon Government Departments' Contributions

The Department of Corrections have trained some of their staff and inmates in outdoor education activities. These staff members and inmates have helped with school programs in rock climbing and canoeing.

The Department of Forestry has helped with outdoor education activities involving student awareness and concern for life in the forest. They also have made available printed matter and speakers to classes studying the forest.

The Game Branch of the Department of Tourism, Conservation and Information Services have offered speakers and movies to classes interested in wildlife. They have also provided speakers and guides for teachers' outdoor education in-services.

The Library Services Branch of this same department has encouraged teachers to bring their classes for familiarization with the library services available to them.

Federal Government Departments' Involvement

The federal government has taken a hand in outdoor education programs. The Department of Fisheries has provided experts who offer instruction to classes as well as giving students experience in doing fish counts, water counts, and related studies. The department has also visited the schools to prepare the students for their outdoor experiences. At teacher in-services, the regional geologist and his assistants have acted as speakers and field guides to teachers interested in studying the geology of the Whitehorse area. They have also helped school classes in a similar way. The Atmospheric Environment Services and the Department of Transport have given students instruction and allowed them to visit their weather prediction and air traffic control facilities.

Private Agencies' Involvement

Private agencies have contributed to student awareness through outdoor education. For many years the Yukon Historical Society has extended free invitations for guided tours through the museum to classes studying the historical development of the Yukon. Mining companies have freed their geologists to take teachers attending in-services out on field trips. They have also given tours of mining operations to students. Some classes have visited local businesses to see what is involved in the business operation.

The Need for the Study

The outdoor education programs that have been implemented in Whitehorse have been initiated primarily at the classroom or school level. Information compiled regarding the readiness of teachers for outdoor education and the value placed on outdoor education by students and parents should be beneficial to teachers in effectively planning for these activities.

This information could also lead to feasible curriculum development and implementation or postponement of outdoor education by the Department of Education. Rogers (1962) speaks of the importance of the perceived compatibility in curriculum change:

> "Compatibility is the degree to which an innovation is consistent with existing values and past experiences of the adopters. An idea that is not compatible with the cultural norms of a social system will not be adopted so rapidly as an idea that is compatible. Compatibility ensures greater security to the potential adopter and makes the new idea more meaningful to him." (pp. 126 & 127)

The study surveyed, within Whitehorse, the readiness of teachers for outdoor education, as well as the value placed on it by the students and parents. It is hoped that the data will be valuable in developing feasible outdoor education curricula based on the aspect of the readiness of the teachers and receptiveness of the community. In that way reasonable expectations on the rate and extent of implementation can be set.

Purpose of the Study

The purpose of the study is:

1) to determine the readiness of a selected community (Whitehorse) for outdoor education programs.

2) to apply a change model in determining the readiness of a community for outdoor education.

To achieve these goals the following relevant information was gathered:

1) Present involvement in outdoor education activities.
2) The grades that are considered most suitable for extensive outdoor education programs.
3) The amount of time that students, parents, and teachers feel should be spent on outdoor education activities.
4) The perceived attributes of the innovation
    a) relative advantage
    b) compatibility
    c) complexity
    d) trialability
    e) observability.
5) The most desirable communication channels.
6) The type and extent of outdoor education activities acceptable to the community.
7) The extent of opinion leaders' and change agents' promotion efforts.
8) The type of innovation-decisions that have been made.

Limitations of the Study

1) The study is cross-sectional. Therefore no trends or tendencies can be predicted. Its accuracy can only be assumed for the time when the study occurred.
2) The sample does not necessarily represent the population.
3) The results may reflect some positive bias.

Assumptions

It is assumed that:

1) the instruments used possess a degree of validity and reliability suitable for this study.
2) the questions were answered accurately and honestly.
3) the respondents possessed accurate recall and perception.
4) the sample represented the whole population of students, parents, and teachers.
5) the Rogers and Shoemaker (1972, p. 102) change model can be used as a readiness model.

Significance of the Study

To Whitehorse

The study should be helpful in determining whether or not outdoor education is wanted by the students, parents, and teachers of Whitehorse. If outdoor education is wanted, the study should result in recommendations being made that will be helpful in determining reasonable curriculum development and implementation in the field of outdoor education. The value placed on outdoor education by the students and parents, as well as teacher readiness, should be valuable in determining the rate and extent of curriculum innovation.

If no curriculum is developed, it should be helpful to interested teachers in planning their outdoor education programs.

To Educational Research

The study should be helpful in assessing the usefulness of a change model (namely Rogers and Shoemaker) in determining community readiness for curriculum change. Their change model is generally used to determine the expected rate of change and the present level of acceptance of a predetermined innovation. In this study it will be used to make recommendations for determining the innovation itself, giving due consideration to the readiness of the implementors and recipients.

Summary of Chapter I

The problem was introduced and delineated along with definitions of specific terms used in the study. A diagram of Rogers' and Shoemaker's (1971, p. 158) paradigm of variables determining the rate of adoption of innovations was presented. The setting of the study, outlining present involvement in outdoor education, was described and the purpose, limitations, assumptions, and significance of the study were stated.

CHAPTER II

RELATED LITERATURE AND RESEARCH

> "All recent authoritative studies on present day environmental problems conclude that there is no hope of finding viable solutions unless the content of general education at all levels is suitably modified so that from childhood, people, particularly in industrialized countries and in urbanized areas, grasp the fundamental interrelations between man and his environment."
> (Stapp, 1975, p. 6)

Purpose of the Chapter

The purpose of this review of the literature and related research is to describe the historical background of outdoor education and to outline the use of a change model in deriving an indication of the readiness of the teachers of Whitehorse for outdoor education. The change (readiness) model of Everett Rogers and F. Floyd Shoemaker (1971) has been used as the framework for this descriptive study.

Readiness: For the purpose of this study, readiness is defined as seeing value in and having the willingness and ability to execute.

Their model was developed on the basis of a broad survey of innovation adoption in many fields. By relating parents' and students' perceived values of outdoor education to this same model, the information gained should be helpful to those teachers engaged in outdoor education activities by giving the teachers an indication of the community's attitude towards their efforts. The information could be valuable to the Department of Education in the development of feasible outdoor education curricula.

Background

As Lee S. Shulman (1974) has pointed out, no matter what "new" ideas are put forth, it is later found that these ideas have been reported by someone before and acted upon previous to the reporting. Such is the case with outdoor education. From the stone age on much of the educational process occurred in the out-of-doors. Gradually educational emphasis (probably as a result of the urbanization process) became more verbalized and less practical as learning took place almost exclusively indoors at a desk. Some educator philosophers, however, did not overlook the importance of multisensory learning through direct experience.

> "From this a golden rule for teachers may be derived: everything should as far as is possible be placed before the senses. Everything visible should be brought before the organ of sight, everything audible before that of hearing. Odours should be placed before the sense of smell and things that are tasteable and tangible before the sense of taste and touch respectively. If an object can make an impression on several senses at once, it should be brought into contact with several ..." (Comenius, 1667, p. 95)

> "In 1780 Heinrich Pestalozzi wrote in 'Not Books but Life Itself': 'To arrive at knowledge slowly, by one's own experience, is better than to learn by rote, in a hurry, the facts that other people know, and then glutted with words to lose one's own free, observant and inquisitive ability to study'." (Vandenhazel, 1968, p. 22)

> "... It is a cardinal principle of the newer school of education that the beginning of instruction shall be made with the experience learners already have; that this experience and the capacities that have been developed during its course provide the starting point for all further learning." (Dewey, 1938, p. 74)

Sharp (1952) suggested:

> "The school is not education; we must learn to think of it as merely the headquarters from which learning

> activities are directed ...
> There are some things, however, that can be learned better in the classroom. It is merely a matter of selection ... In a classroom, subjects tend to become artificially separated from the rest of the world. One cannot explore housing conditions in the community without touching history, sociology, health, science and other fields." (pp. 20-21)

Hammerman and Hammerman (1973 a) commented that taking subject matter out of its natural environment and placing it in the artificial confines of a classroom brings sterility to the classroom. Voelker (1975) added that, more importantly, the causal relationship between man and his environment is often lost when learning is confined to the classroom. As Sharp points out, "Outdoor education forces the issue of integration in the curriculum, to study and experience things in their total relationships - one thing to the other" (1952, pp. 20-21).

Although relationship between man and his environment is a major concern of the seventies, it is not a recent concern. Malthus (1798), using geometric calculations, predicted the overpopulation of the Earth. Marsh (1864) described the demise of some of the Earth's most fertile lands because of man's abuse. David Lowenthal, expanding on Marsh, suggested:

> "The same destructive processes - extirpation of forests and wildlife, over-grazing, a too ambitious agriculture - recurred wherever civilization had flourished. Long ago fertile and populous, the sterile Sahara, ..., the rock-strewn valleys of Provence and Dauphine, were now forlorn monuments to human greed or improvidence." (Lowenthal, 1965, p. XVIII)

In the past, however, man could always move on to new land. Today he is running out of new land to "conquer".

What does the future hold in store for us? Mesarovic and Pestel attempted to show that mankind is at the turning point. By extrapolation of present trends they predicted world catastrophe in the next century unless mankind makes a drastic change in lifestyle. They stated:

> "Several critical problem areas have been investigated, in particular the world food shortage, energy crisis, population growth, and the disparity in economic development. Two gaps, steadily widening, appear to be at the heart of mankind's present crises: the gap between man and nature, and the gap between 'North' and 'South', rich and poor. Both gaps must be narrowed if world-shattering catastrophes are to be avoided; but they can be narrowed only if global 'unity' and earth's 'finiteness' are explicitly recognized." (1976, p. IX)

The assumption has been made in this presentation that the Club of Rome's concern for the future is well founded. However, even if their catastrophic predictions are wrong, the holistic or environmental attitude will continue to be very valuable to citizens in our diminishing world.

What can education do to develop this attitude? As Reischauer states:

> "The question remains: What can education do about all this? Clearly, not everything. I would be the last to suggest that a world community can be developed through any single master plan, much less a plan limited to the field of education. But education certainly must be part of the effort - a crucial part, in fact. Whatever may be one's analysis of the road ahead for mankind, there can be no doubt that education faces some stupendous tasks." (1974, p. 135)

Margaret Mead describes the educational dilemma as follows:

> "We must educate people in what nobody knew yesterday and prepare people in our schools for what no one knows yet but which some people must know tomorrow." (In McInnes & Albrecht, 1975, p. 51)

What is Outdoor Education?

Hammerman and Hammerman (1973 a) described outdoor education as an obscure and vague term. They said outdoor education augments and is sometimes considered to be conservation education, science education, agricultural education, outdoor recreation, camping education, nature study, or environmental education. They defined outdoor education as "the utilization of the out-of-doors as a laboratory for learning" (1973 a, p. 9), and considered it to be interdisciplinary in character.

Donaldson and Donaldson (1968, p. 7) described outdoor education as "education in, about and for the outdoors". They considered that outdoor education takes place in the outdoors, is about the outdoors, and provides a "positive and a moral approach" to interacting with the outdoors. Smith, Carlson, Reynold, Donaldson, and Masters added to this the idea that outdoor education is

> "... not a separate discipline with prescribed objectives ... it is simply a learning climate offering opportunities for direct laboratory experiences in identifying and resolving real-life problems ..." (1972, p. 20)

As Vandenhazel (1968) pointed out, educators since World War II have returned to this realization that abstract learning must be aided and reinforced by concrete experiences.

In this study outdoor education was given a meaning similar to Vandenhazel's (1968, p. 22) definition: "utilization of teaching resources which cannot be brought into the classroom", involving the man-made environment as well as the natural environment. It is hoped that through contact with the man-made as well as the natural environment, the connection between the two environments will be reinforced for the students. Vandenhazel's definition is based on the writings of the late L. B. Sharp, executive director of the Outdoor Education Centre Association, Carbondale, Illinois. He did not consider outdoor education to be an area of learning nor a separate discipline with specific objectives.

> "That which can best be learned inside the classroom should be learned there. That which can best be learned in the out-of-doors through direct experience, dealing with native materials and life situations, should there be learned." (Quoted from Vandenhazel, 1968, p. 22)

What Are the Aims and Objectives of Outdoor Education?

The aims of the San Diego Outdoor Education Program were representative of many outdoor education programs. These aims include:

"1. To help people relate to a natural environment and understand natural forces.
2. To help each child to become a more complete person, educationally, spiritually, and socially.
3. To give children experiences they would not otherwise have had.
4. To help each child become more independent, more mature and more competent in skills and knowledge.
5. To help children view the world in a way of questioning, wondering, discovering and solving problems.
6. To give children opportunities to work at conservation projects.
7. To live with and get to know other children from different races, economic levels and cultures.
8. To learn about responsibility and how to look after himself." (Schramm, 1969, p. 35)

Russel saw similar objectives but added another important one: "To help the children see adults as learners who have basic human qualities in common with all people" (1973, p. 126).

Still another goal of outdoor education was that of stimulating and enhancing classroom learning:

> "Teachers who have given outdoor education a trial are quite emphatic in saying that it improves the chances for mutual trust and confidence. And they say, further, that when they go back into the indoor classroom with those same students, much of the stiffness has gone out of the educational process, to be replaced by a new kind of eagerness never before seen within those walls." (Sharp, 1952, p. 21)

The objectives and benefits of outdoor education as seen by Orford are:

> "People of different backgrounds living together in a natural outdoor setting, make 'outdoor education' an ideal medium for meeting such educational objectives as cooperation; individual and group responsibility; written, oral and graphic communications; analyzing and solving problems; knowledge about man and the environment; as well as the development of skills and attitudes for leisure activities." (Orford, 1972, pp. 64, 65)

In 1975 an international workshop was held under the auspices of the United Nations Educational, Scientific and Cultural Organization. This workshop resulted in the Belgrade Charter entitled "A Global Framework for Environmental Education". This framework for environmental education was directed at the general public with particular reference to the formal education of young people and teachers.

> "Environment Education: Goal and Objectives.
> The goal of environmental education is: To develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations and commitment to work individually and collectively, toward solutions to current problems, and the prevention of new ones.
> The objectives of environmental education relate to helping both individuals and groups to: acquire

> awareness of and knowledge about the environment and its allied problems; to acquire new social attitudes of concern that will motivate active participation; to acquire the skills for solving problems; to be able to evaluate environmental measures and education programmes in terms of ecological, political, economic, social, aesthetic and educational factors; and to participate in appropriate action to solve problems.
>
> "Guiding Principles.
> Environmental Education should
> 1. consider the environment in its totality; natural and man-made, ecological, political, economic, technological, social, legislative, cultural and aesthetic;
> 2. be a continuous lifelong process both in-school and out-of-school;
> 3. be interdisciplinary in its approach;
> 4. emphasize active participation in preventing and solving environmental issues;
> 5. examine major environmental issues from a world point of view, while paying due regard to regional differences;
> 6. focus on current and future environmental situations;
> 7. examine all development and growth from an environmental perspective;
> 8. promote the value and necessity of local, national and international cooperation in the solution of environmental problems."
>
> (Belgrade Charter, 1975, p. 58)

The first step in reaching these goals and objectives appears to be the development of an environmental awareness which can best be achieved through outdoor education which brings the students into direct contact with their environment. As stated by Hammerman and Hammerman (1973 a), outdoor education

> "may be summarized along the following continuums: the objectives continuum, the grade level continuum, the curriculum continuum, the time span continuum, and the location continuum." (p. 14)

Research Findings

Hammerman and Hammerman found that although the amount of research is increasing steadily, there is a "dearth of experimental studies in this area, as well as a notable lack of research concerned with the philosophical implications of the outdoor education movement" (1973, p. 369). They further pointed out that no research thus far had addressed itself to the construction of a theoretical framework for the various aspects of outdoor education.

Research in Program Evaluation

Sharp (1947) found that a three-week camping experience benefited grades V and VII children in several areas:

1) interest inventories and vocabulary showed significant gains,

2) gains were also recorded in written expression and artistic representation.

Pike (1954) evaluated the science program in an outdoors school and noted that, after a two week camp, the sixth grade pupils tested had made significant gains in some general science areas - plant relationships, rocks, and minerals.

Hollenbeck (1958) also related educational outcomes to a one week camping experience and found that, in the area of art, post-camp drawings included more science topics, were more detailed and realistic, and revealed keener observational powers than pre-camp drawings. He also found that the children studied made significant gains in science interests as well as gains in all areas of an interest inventory. From this information, he concluded that outdoor education does increase environmental awareness.

Evidence gathered by Hocksema (1964) on teaching arithmetic utilizing the outdoors supported the idea that the outdoor classroom is a "valuable adjunct" to indoor teaching. He found that after four weeks the class of grade VI students utilizing the outdoors showed significant gains at the .01 level of confidence for combined scores in reasoning plus computation. James (1969) found that all grade VI curriculum subjects can be taught effectively using the outdoors as the curriculum medium in a camping program. Risden (1974), in a study involving teachers of outdoor education, found that all but one curricular area were reported as related to their outdoor education program by some of the teachers studied. Foreign Languages was the only area not reported as being related in the teachers' programs. Possibly this lack of relationship exists because foreign languages are taught by specialists who were not involved in the outdoor education programs.

Peck studied the effectiveness of the class setting for biology classes. The synopsis that follows shows that the outdoors can be an effective educational tool:

> "The following study was part of an E.S.E.A. Title III grant to the Burke County, North Carolina, Public School System. The objectives of the study were to teach identified cognitive and affective objectives in three settings: inside classrooms, outside and away from school facilities, and a combination of indoor and outdoor settings. Students in the three experimental approaches were high school biology students in the 1973-74 school year. Program effectiveness was determined by two tests, each administered as pre-tests and post-tests.

> "Student scores on the cognitive test reflected a greatly improved post-test mean score for the outdoor group. Both the combination and indoor groups improved their mean post-test scores but not as dramatically as did the outdoor group. Affective mean post-test scores improved in both the outdoor and indoor groups indicating a shift to a more positive attitude toward the environment. A slightly negative shift was reflected in the mean post-test score of the combination group.
>
> "Test scores indicated that the outdoors could be used as an effective educational tool. Some advantages of taking students outside did not register on the two tests but resulted in student, parent, and teacher comments supporting such activities." (1975, abstract)

These research findings appear to substantiate the ideas of Weiner (1965), Clark (1975), and Herman (1976) that the approach to outdoor education should be interdisciplinary in character.

Research in the Socialization/Affective Domain

The improvement in a child's self concept is considered by many educators to be one of the greatest contributions of extensive outdoor education in a natural environment. In the outdoors the child can gain a better perspective of the world he lives in and his relationship to it. The child becomes more aware of the "powers of nature" as well as his own strengths and weaknesses.

Jones and Swan (1971) conducted a survey of parents of students involved in an extended outdoor education program. The parents noticed a marked increase in their children's self confidence following the camp.

Thompson (1975) studied the "influence of social and natural environment interaction" on University of Alberta students who participated in three to four day camping experiences in an outdoor education setting. She found a highly significant positive change in the participants' self concept, particularly in the skill, socio-emotional, and leadership dimension areas. Thompson felt that the outdoor education environment provided an opportunity for simultaneous interaction of both the physical and social environments, and thereby produced positive changes in self concept.

Kranzer (1958) studied the effects of a one week camp experience on sixth graders. He found that more rapid changes took place in social and democratic behavior than in the indoor classroom plus a slight improvement in critical thinking by low ability students. He found, however, a greater number of isolates in camp than was normally found in the classroom.

Gibson (1966) found that, when students were randomly grouped in an extended camping environment, isolates increased. When students were homogenously grouped, according to social rank, isolates decreased. This finding suggests that camp grouping is an important factor to be considered in camp programs.

Research and Literature on Attitude Towards Outdoor Education

As more and more information comes to light showing the connections between different activities that were previously not considered to be related, the attitude towards outdoor education and environmental education is becoming more positive.

In an accumulation of results of parent outdoor education evaluations completed in 1956 involving 100 outdoor education programs, Bell and Bell (1957, pp. 102-107) found that 95-99 per cent of the parents felt the camp experiences were beneficial to their children and wanted the program to continue.

Cowan, studying Edmonton teachers, found that most teachers had a favorable attitude towards outdoor education; but, teachers who provided outdoor education opportunities to their students had a more favorable attitude than those who did not. The following reasons were given for teachers becoming involved in outdoor education:

> "a) it permits the student to learn through direct experience;
> b) outdoor education motivates pupil interest, especially when they are included in the planning;
> c) this method of teaching increases awareness and sensitivity towards the natural environment;
> d) outdoor education enhances the opportunity for student-teacher cooperation." (1973, pp. 120-121)

The favorable position of outdoor education in Canada is expressed by Passmore. He states:

> "It became very evident to me while I was travelling on my fact-finding mission that one of the unusual features about outdoor education in Canada is that it has clearly been a 'grass-roots' development; that it has come about with relatively little encouragement and support from above ... With certain notable exceptions, individual schools and teachers - often with a great deal of community support - have almost always taken the initiative." (1972, p. 13)

Clark expresses another apparent advantage of outdoor and environmental education. He says: "No teacher has to become a specialist in order to teach environmentally, nor is there the need for a new or specialized curriculum" (1975, p. 3). He goes on to say that by relating some of the basic concepts of environmental education (borrowed from ecology) to the regular curriculum, any motivated teacher can teach environmentally.

Outdoor education is generally considered to be very worthwhile. Caution is called for, however. Langton (1972) points to the need to clearly identify, define, explain, and justify the values underlying proposals and programs. He states that, all too often, testimony without value clarification is the only basis of evaluating program effectiveness. Knapp suggests the need for more empirical research in order to solidify a place for outdoor education in the curriculum. He feels that "exaggerated claims concerning student retention, understanding, appreciation, and attitudinal change have been advanced with little research evidence to substantiate them" (1972, p. 117).

How Can the Aims of Environmental/Outdoor Education Be Achieved?

> "How can a population, that is aware of and concerned about the environment, and has the ability to prevent new problems and work towards solutions for old problems, be developed?"
> (Belgrade Charter, 1975)

For outdoor education to develop on a sound basis, the teachers who become involved should have the readiness for outdoor education. If teachers without readiness, seeing value in and having the willingness and ability to execute, are pushed into outdoor education by authoritative decisions, the probability of their success with it, as well as its continued use, is limited. According to Rogers and Shoemaker (1971), the program will be adopted quickly but also be discontinued quickly.

If teachers who are ready become more involved with outdoor education, the research suggests that they will have a high probability of success. Their success may encourage others to try it if it is perceived as having a high rate of trialability. Change resulting from a number of teachers trying and succeeding would be slower than an authoritative decision but would have a deeper and stronger foundation on which to build. Outdoor education would have more likelihood to be continued if the teachers could choose to become involved (Rogers and Shoemaker, 1971).

How Can Outdoor Education Function?

a) Parents: Although some parents have helped to develop the aims of outdoor/environmental education in their children, most parents have been strongly affected by the "more, further, quicker, richer" watchwords and find it difficult themselves to become more concerned with "conservation and the quality of life" (Leitch, 1973, p. 1). It is difficult for these parents to help their children develop positive attitudes towards conservation.

b) Youth organizations: Youth organizations, run on a voluntary basis, helped to develop the aims of outdoor education. However,

Figure II

Theoretical Framework

Based on writings of Mesarovic and Pestel (1974) and Dasmann (1975)

Present World Environmental Status	Proposed Action Alternatives	Main Communication Channels	Possible Future World Environmental Status
Current World Crises Population growth Food shortage Energy shortage Gap between man and nature Gap between rich and poor Undifferentiated growth (with little or no consideration for long-range consequences or side effects)	a) International Conservation and Environmental Laws b) National conservation and environmental laws c) Local conservation and environmental laws d) Make industries aware of long range effects of present methods of production (good and bad)	Mass media Conferences Some direct experience	Population stabilization and negative growth in some areas. More recognized connection between food supply, food need and waste. Less energy waste and greater energy supply. Recognized interrelationship between man and nature. Less disparity between rich and poor.
	e) Outdoor education i) Schools ii) Youth and adult organizations iii) Families	Primarily direct experience Mass media Conferences	Organic growth based on long range rather than short-range benefits.

NOTE: It is hoped that all action alternatives will complement each other in the development of a population that is aware of and concerned about the earth's environmental problems. The action that may be slowest to show its results but have the deepest effect appears to be outdoor/environmental education. As stated by Dasmann, "By bringing more people into close touch with the processes that support life, the limits of the environment will become more obvious" (1975, p. 157).

> "While schools should provide the basic instruction for grades K through 12 and adult education, the community agencies can supply additional opportunities for participation for all members of the community." (Smith et al., 1972, p. 268)

c) Schools: In developing the aims of outdoor education, schools appear to be in an ideal position. They can offer outdoor education to all students and use it to complement the regular curriculum (Sharp, 1952).

It is hoped that the parents, youth organizations, and schools would complement each other in the development of children who are concerned about their environment and have the knowledge, skills, and attitudes required for solving environmental problems (Smith et al., 1972).

Why Should Outdoor Education be Part of the Curriculum?

Since outdoor education is not a separate discipline, is it necessary for it to be part of the curriculum? The preparation of students for adult life involves an awareness of the "connections" between school and the real world. Outdoor education can make classroom learning more meaningful (Sharp, 1952). At present, some students have had substantial involvement in outdoor education, while others have had little or no involvement. Curricula containing substantial involvement in outdoor education could be developed for certain grades, and thereby ensure at least some extensive outdoor education involvement for all students at some time in their school career.

What Conditions Would Have to Exist for Outdoor Education to Become Part of the Formal Program?

For some teachers to function confidently in outdoor education, they need to feel that the parents and students see value in what the teachers are doing (Rogers and Shoemaker, 1971).

The effectiveness of an outdoor education program is dependent upon the willingness of outside agencies to assist [i.e. the amount of assistance made available (Brickell, 1964)]. As outlined in Chapter I, there presently is a substantial amount of assistance being offered by non-school agencies. As mentioned earlier, one important factor in outdoor education becoming part of the formal program is the readiness of the teachers. By using Rogers' and Shoemaker's change model, an indication of the readiness of the teachers for outdoor education can be gained which should be helpful in determining a feasible amount of outdoor education for implementation into the curriculum.

What Factors Determine Teacher Readiness?

It would appear that the factors indicating teacher readiness are testable by using the Rogers and Shoemaker change model. The Rogers and Shoemaker model outlined four stages in the "innovation-decision process". The four stages appeared to be involved in all innovation decisions, but the time spent in each stage differed considerably depending upon the variables affecting the rate of adoption (see p. 4 of Chapter I). How these same variables can be used to indicate "readiness" is outlined below.

The four stages:

1) Knowledge: "The individual is exposed to the innovation's existence and gains some understanding of how it functions" (Rogers and Shoemaker, 1971, p. 103). At this stage the "compatibility" and "complexity" of the innovation are considered to be most important (see p. 32). Two aspects of "readiness" are involved here: that of a) the perceived value and b) the perceived ability to execute.

2) Persuasion: "The individual forms a favorable or unfavorable attitude toward the innovation" (Rogers and Shoemaker, 1971, p. 103). "Relative advantage" and "observability" are considered most important at this stage of the change process (see pp. 32 and 33). "Relative advantage" and "observability" influence the "willingness" referred to in the definition of "readiness" as well as the value seen in the modification.

3) Decision: "The individual engages in activities which lead to a choice to adopt or reject the innovation" (Rogers and Shoemaker, 1971, p. 103). At this stage "trialability" is considered most important (see p. 33). "Trialability" appears to have a strong effect on the "willingness" to become involved in an innovation. If a teacher must become totally committed to outdoor education before he/she can try it, there will be less "willingness" to become involved.

4) Confirmation: "The individual seeks reinforcement for

the innovation-decision he has made, but he may reverse his previous decision if exposed to conflicting messages about the innovation" (Rogers and Shoemaker, 1971, p. 103). In relation to "readiness", those teachers who have already made a decision regarding involvement or non-involvement in outdoor education may be affected by the results of the readiness survey.

The Five Variables Affecting the Innovation-Decision Process

The five variables affecting the innovation-decision process, as outlined by Rogers and Shoemaker, are described as follows:

1) The Attributes of the Innovation (previously related to readiness in discussion of the four stages of the change model)
    a) Relative Advantage: "The greater the perceived relative advantage of an innovation, the more rapid its rate of adoption" (1971, p. 22).
    b) Compatibility: "the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of the receivers" (1971, p. 22). Rogers (1962) expanded on compatibility.

    > "Compatibility is the degree to which an innovation is consistent with existing values and past experiences of the adopters. An idea that is not compatible with the cultural norms of a social system will not be adopted so rapidly as an idea that is compatible. Compatibility ensures greater security to the potential adopter and makes the new idea more meaningful to him." (pp. 126-127)

    c) Complexity: "the degree to which an innovation is perceived as difficult to understand and use"

(1971, p. 22).

d) Trialability: "the degree to which an innovation may be experimented with on a limited basis" (1971, p. 23).

e) Observability: "the degree to which the results of an innovation are visible to others" (1971, p. 23).

The importance of receivers' perception over the experts' perception is expressed.

2) The Nature of the Communication Channels:

"A communication channel is the means by which the message gets from the source to the receiver" (1971, p. 24). At different stages, different communication channels are more important. At the knowledge stage mass media is very significant, but at the persuasion and decision stages interpersonal communication is most critical. If the teachers indicate a desire for more interpersonal communication rather than mass media, it should indicate that they are interested in developing the abilities to execute a program.

3) The Nature of the Social System

"Norms are the established behavior patterns for the members of a given social system. They define a range of tolerable behavior and serve as a guide or a standard for the members of a social system." If the society sees value in an innovation, the teachers are more willing to become involved in it. Therefore, the parents' and students' perceived value and desired amount of outdoor education will give an indication of their readiness as well as the teachers' readiness for involvement in outdoor education.

4) The Extent of Opinion Leaders' and Change Agents' Promotion

Opinion leaders generally emerge from within a social system and might be traditional or innovative depending upon the norms of the social system. Change agents usually emerge from outside the social system and represent a particular change agency. The involvement or support of the opinion leaders will affect the value seen in the innovation as well as the willingness of the teachers to become involved, thereby affecting the readiness of the teachers.

5) The Type of Innovation-Decision

a) Optional decisions:

> "made by an individual regardless of the decisions of other members of the system. Even in this case, the individual's decision is undoubtedly influenced by the norms of his social system and his need to conform to group pressures." (1971, p. 36)

b) Collective decisions:

> "those which individuals in the social system agree to make by consensus. All must conform to the system's decision once it is made." (1971, p. 36)

c) Authority decisions:

> "those forced upon an individual by someone in a superordinate power position, such as a supervisor in a bureaucratic organization ... Generally, the fastest rate of adoption of innovations results from authority decisions ... Although made most rapidly, authority decisions are more likely to be circumvented and may eventually lead to a high rate of discontinuance of the innovation." (1971, pp. 36 and 37)

The innovation-decision appears to be directly related to readiness. If the teachers are ready for an innovation, authoritative decisions are superfluous. If the teachers are not ready, authoritative decisions, in the long run, are the least effective.

Donaldson and Donaldson relate a basic aspect of change that is of importance in the possible outcomes of this study. "Methods of instruction change when teachers want to change them ... 'Curriculum development', then, is in reality 'people development'." (1972, p. 26)

Rogers states:

> "It is the characteristic of a new product not as seen by experts but as perceived by the potential adopters that really matters." (1962, p. 123)

Summary of Chapter II

In Chapter II, the background of outdoor education was set forth followed by a definition of outdoor education. The aims and objectives of outdoor education were outlined followed by alternate methods of achieving these objectives. Reasons why outdoor education should be part of the school curriculum and conditions required for implementation to occur were delineated. One significant condition discussed was the readiness of teachers, parents, and students for outdoor education. Teacher, parent, and student readiness factors were related to Rogers' and Shoemaker's change model.

CHAPTER III

PROCEDURE OF THE STUDY

Approach to Data Collection

To acquire an indication of the ease with which outdoor education curriculum development and implementation might be achieved in Whitehorse, Yukon, a questionnaire was administered to students, parents, and teachers. As no satisfactory instruments for the collection of this data were found to exist, original instruments had to be developed and refined.

Selection of the Sample

Responses were solicited from students and parents as well as from teachers. Originally, the students were to include grades III, VI, IX and XII and were to have been selected on a random basis. However, after extreme difficulty in developing an instrument that could elicit meaningful responses and be understood by grade III students, the decision was made to limit the data collection to three groups. These three groups were: 1) the grades VI, IX and XII students, 2) their parents, and 3) all kindergarten to grade XII teachers of Whitehorse. Instead of randomly selecting the grades VI, IX and XII students, all students in these grades made up the student sample. All parents of these students were included in the parent sample.

The Development of the Instruments

The purpose of the study was to acquire an indication of the readiness of the community of Whitehorse, Yukon Territory, for outdoor education. A questionnaire/opinionnaire was designed which treated outdoor education as an innovation. This approach allowed the use of the Rogers and Shoemaker (1971) change model as a theoretical framework. The instruments were designed primarily in the form of a Likert-type scale with additional space for comments. In planning the questionnaires, a positive bias in question design caused some concern. However, in weighing positive bias against possible misunderstanding and misanswering of questions, the decision was made to word all the Likert-type questions with the unfavorable to outdoor education response being represented by (1) and the favorable response being represented by (5). This resulted in less possibility of misunderstanding and misanswering but more possibility of positive bias. (i.e. If there was a mixture of positive and negative answers, the respondents may think negatively towards a statement but mistakenly answer positively and vice versa. If a respondent wanted to be agreeable irrespective of what was said, there may be more tendency towards positive bias.)

In order to receive the desired feedback, four instruments were developed. One instrument was for teachers, a second for parents, the third instrument was for grades IX and XII students, and the fourth instrument was for grade VI students. These instruments were piloted on five teachers, four parents, and six students. The instruments next were modified and sent to five consultants (Mrs. Joy Finlay, President of the Environmental and Outdoor Education Council of the Alberta Teachers' Association; Dr. Daiyo Sawada, Associate Professor of Elementary Education; Dr. Harvey Scott, Associate Professor of Physical Education; Mr. Dan Stoker, Alberta Department of Environment; and Dr. Les Tolman of the Curriculum Branch of the Department of Education) to examine for validity and clarity. Dr. Hunka, Co-ordinator of Educational Research Services, was then consulted regarding the suitability of the design for computer services.

After refinements based on the recommendations of these consultants, the instruments were tested on four teachers, three parents and four students for clarity. The instruments were then printed for distribution. Complete copies of the questionnaire/opinionnaire are contained in Appendix A.

The Teacher Questionnaire

The teacher questionnaire was designed to elicit information that could be related to the paradigm of variables determining the rate of adoption of innovations in Rogers' and Shoemaker's change model. The questionnaire briefly described the purpose of the study, defined outdoor education, gave directions for participating in the research, and offered the name and telephone number of a local outdoor education expert who had agreed to answer or relay any questions regarding the questionnaire.

Sections A and B of the questionnaire were to be answered only by teachers who had been involved in outdoor education at some time during the last four years. Sections

C to F of the questionnaire were to be answered by all teachers.

Relationship to the Rogers and Shoemaker Change Model

Questions 1 to 4 of Section A reflected the complexity of outdoor education as perceived by those who have been involved.

Observability, or the ease with which teachers can discuss the effectiveness of outdoor education activities with others, was revealed in questions 5 and 6 of Section A.

The perceived compatibility, or consistency with existing values, needs and past experience of the teachers, was reflected in question 3c) of Section B; questions 1, 2, 3, and 9 of Section C; and questions 1 and 2 of Section D.

The relative advantage as perceived by the teachers was indicated in questions 5, 6, 7, and 8 of Section C.

The perceived trialability, or degree with which outdoor education activities can be experimented with on a limited basis without a full commitment, was revealed in question 10 of Section C.

Question 3a) and 4 of Section B reflected the type of innovation-decisions that have been made regarding outdoor education involvement of those teachers who have taken part in outdoor education and possibly the long range results of the decision.

The effect of various communication channels on those teachers who are already involved in outdoor education was explored in Section B 1. The communication channels preferred by all teachers were revealed in Section E.

The teachers' perceptions of the acceptability of outdoor education to the parents was indicated in question 4 of Section C.

The extent of support by different agencies and material, not specifically change agents, was expressed in Section B 2 (b, f, g).

Question 4 of Section B gave an indication of whether or not the teachers involved in outdoor education in the past four years expected to continue their involvement in outdoor education. (This question represents Rogers' and Shoemaker's confirmation stage.)

Characteristics of the respondents were expressed in Section F.

The Parent and Grades IX and XII Opinionnaires

The opinionnaires of the parents and the opinionnaires of the grades IX and XII students were nearly identical. The "Introduction" briefly described the purpose of the opinionnaire and defined outdoor education as used in this study.

Section A expressed personal data referring to involvement in outdoor education and the grades in which the children or students were.

The parent opinionnaire was designed primarily to give an indication of the nature of the social system or the parents' perceived values of outdoor education.

Compatibility was questioned in 1 to 4 of Section B and the relative advantage of outdoor education activities over classroom activities in 5 to 8 of the same section.

Figure III

Questions Relating to Rogers' and Shoemaker's Change Model

(See Appendix A)

Variables	Relevant Questions
A. Perceived Attributes:	
1) Relative Advantage	Teachers: C(5-8) Parents: B(6-8) Grades IX & XII: B(6-8) Grade VI: B(7-8)
2) Compatibility	Teachers: B(3c); C(1-3, 9); D(1, 2) Parents: B(1-5, 9); C(1, 2) Grades IX & XII: B(1-5, 9); C(1, 2) Grade VI: B(1-6)
3) Complexity	Teachers: A(1-4)
4) Trialability	Teachers: C(10)
5) Observability	Teachers: A(5, 6)
B. Type of Innovation-Decision	Teachers: B(3a, 4)
C. Communication Channels	Teachers: B(1); E
D. Nature of the Social System	Teachers: B(2b, f, g, 3c); C(4)
E. Extent of Change Agents' and Opinion Leaders' Promotion Efforts	Teachers: B(2a, e, h, i)

Figure IV

Questions Relating to Characteristics of the Study Groups

Group	Relevant Questions
Teachers	B(3b); F(1, 2, 3, 4)
Parents	A(1, 2); Final Question
Grades IX and XII Students	A(1-3)
Grade VI Students	A(1, 2)

The grades in which outdoor education was considered to be most valuable were indicated in Section C (1). Section C (2) expressed the number of days that parents considered should be spent on outdoor education.

The grades IX and XII responses to opinionnaires were made in the presence of the researcher who was present to clarify any misunderstanding.

The Grade VI Opinionnaire

The grade VI opinionnaire was designed primarily to record the students' feelings towards outdoor education. The instrument consisted of one page only, starting with a brief introduction and definition of outdoor education.

Section A expressed previous involvement in outdoor education activities.

Questions 1 to 5 of Section B gave an indication of the compatibility of outdoor education to the students and questions 6 to 8 indicated the students' perceived relative advantage of outdoor education activities to classroom activities.

For improved understanding of questions, all grade VI opinionnaires were read and answered question by question under the guidance of the researcher.

Data Collection

Procedure

With the aid of the regional superintendent, a timetable was set up for student data collection. The teacher questionnaires were distributed with the aid of the regional superintendent and school principals in May, 1977. Parent and guardian questionnaire/opinionnaires were sent to the parents and guardians, and returned, with the aid of the students. Data was collected from the schools by the researcher.

Some questionnaires were incomplete but were used for the data they contained.

Treatment of Data

The questionnaire/opinionnaires were analyzed by tabulating the number of times each response category was chosen. For some questions, cross-tabulations were performed and means calculated.

The findings were reported in tabular form using raw scores and/or percentages and interpreted in the supporting text. Comments were reported in the pertinent text.

TABLE 1

QUESTIONNAIRE/OPINIONNAIRE RETURNS

Sample	Number Distributed	Number Collected	Percentage
Grade VI	266	266	100
Grade IX	211	211	100
Grade XII	101	101	100
Teacher	172	95	55.2
Parent	524	212	40.5

Summary of Chapter III

The purpose of the chapter was to outline the procedure used in the study. Instrument development and sample selection were described. The relationship of the instruments to Rogers' and Shoemaker's change model was reviewed and the methods for data collection reviewed.

A table showing questionnaire/opinionnaire returns was presented. This table followed an explanation of how the data was treated.

Figure V

Procedure of the Study

1. Selection of the Sample
    - a) All grades VI, IX and XII students
    - b) All parents or guardians of these students
    - c) All kindergarten to grade XII teachers
2. The Development of the Instruments
    - a) Teacher
    - b) Parent
    - c) Grades IX and XII students
    - d) Grade VI students
3. The Relationship of the Instruments to the Rogers and Shoemaker Change Model
4. Data Collection
    - a) Procedure
    - b) Returns
5. Treatment of Data

CHAPTER IV

PRESENTATION AND INTERPRETATION OF DATA

Questionnaire/opinionnaire feedback was received from teachers of kindergarten to grade XII classes; students in grades VI, IX and XII; and the parents of these students. Results were reported collectively in groups except where distinguishing characteristics were considered important.

The questionnaire/opinionnaires were designed to ascertain personal information about the respondents and their feelings about factors related to outdoor education. Biographical data on the respondents was presented at the beginning of this chapter followed by information about factors related to outdoor education. Corresponding questionnaire/opinionnaire numbers will be indicated in brackets under the heading of the table.

Characteristics of the Study Groups

A. Teachers

Teacher Involvement in Outdoor Education

Of the ninety-five respondents, sixty-eight (71.6%) reported involvement in outdoor education activities within the past four years. Out of these who reported involvement (N = 68), forty-one (60.3%) indicated participation in activities of over one-half day in length.

Levels Taught (Table 2)

The ninety-five responding teachers represented all levels according to their total numbers on a relatively equal basis with some teachers teaching in more than one level.

Grades IV to VII had the highest number of teachers and were represented by the most questionnaires. Kindergarten had the least teachers and was represented by the lowest number of questionnaires.

TABLE 2

LEVELS TAUGHT BY RESPONDENTS (N = 95)

(F: 1a)

	Kindergarten	Grades I-III	Grades IV-VII	Grades VIII-IX	Grades X-XII
Number of Questionnaires	7	27	41	26	22
Percentage of Questionnaires	7.4	28.4	43.2	27.4	23.2

Subjects Taught (Table 3)

The largest group of teachers spent more than 75% of their teaching time with one class. Teachers specializing in certain subject areas indicated that subject utilizing the most teaching time if they taught one class of students for 75% or less of their teaching time. If teachers taught one class of students for more than 75% of their teaching time they were considered generalists. The questionnaire was confusing here for kindergarten and special education teachers who would fit into two categories, "General" and "Kindergarten" or "Special Education". For this reason, it is expected that some kindergarten and special education teachers were recorded as generalists. If more than one

TABLE 3

SUBJECT SPECIALIZATION OF TEACHERS

(F: 1b)

Subjects Taught	Number of Teachers	Percentage of Teachers
Not Stated	3	3.2
General	42	44.2
Art	1	1.1
Commercial	1	1.1
Guidance	1	1.1
Foreign Language	4	4.2
Home Economics	2	2.1
Industrial Arts	2	2.1
Kindergarten	3	3.2
Language Arts	7	7.4
Mathematics	7	7.4
Music	1	1.1
Physical Education	2	2.1
Science	6.	6.3
Social Studies	2	2.1
Special Education	3	3.2
Other (1 administrator, 1 librarian, and 6 mixed specialists)	8	8.4
Total	95	100.0

subject specialty was given, teachers were recorded in the "other" category.

Years of Teacher Training (Table 4)

The greatest number of respondents indicated four years of university teacher training and the next highest number of respondents indicated five years of teacher training.

The number of years of teacher training (beyond matriculation) was indicated here, but teacher training (beyond matriculation) was not stated on the questionnaire. Therefore, any teachers, except kindergarten teachers, indicating one year of teacher training and five or less years of teaching experience were considered to have five years of training, as they would not have been hired in the last five years with one year of teacher training beyond senior matriculation. Two responses were modified in this manner.

TABLE 4

YEARS OF TEACHER TRAINING

(F: 2a)

	not stated	1 year	2 yrs.	3 yrs.	4 yrs.	5 yrs.	6 yrs.	7 yrs.	Total
Number of Teachers	6	7	4	9	36	30	2	1	95
Percentage of Teachers	6.3	7.4	4.2	9.5	37.9	31.6	2.1	1.1	100

Years of Teaching Experience (Table 5)

The majority of the respondents indicated ten or less years of experience. As shown in Table 5, the number of teachers with more than ten years of experience drops rather sharply compared to the two groups with ten or less years experience.

TABLE 5

YEARS OF TEACHING EXPERIENCE

(F: 2b)

	Not Stated	5 Years	6-10 Years	11-15 Years	16-20 Years	20+ Years	Total
Number of Teachers	4	30	28	18	9	6	95
Percentage of Teachers	4.2	31.6	29.5	18.9	9.5	6.3	100

Teacher Education Route (Table 6)

The greatest number of respondents' education route was elementary and several had overlapping routes. The group stating "other" included thirteen teachers who received training in the elementary and secondary areas; one in the elementary and special education areas; one in the special education area; one in the pre-school, elementary and secondary areas; one in the pre-school, elementary, secondary, college and university areas; and one with no "other" specified.

TABLE 6

TEACHER EDUCATION ROUTE

(F: 3)

	Not Stated	Pre-School	Elementary	Secondary	Other	Total
Number of Teachers	1	2	44	30	18	95
Percentage of Teachers	1.1	2.1	46.3	31.6	18.9	100

University Courses Related to Outdoor Education (Table 7)

As indicated in Table 7, few teachers had taken university courses related to outdoor education.

TABLE 7

UNIVERSITY COURSES TAKEN RELATED TO OUTDOOR EDUCATION

(F: 4a)

	Not Stated	Yes	No	Total
Number of Teachers	4	14	77	95
Percentage of Teachers	4.2	14.7	81.1	100

Attendance at In-Services on Outdoor Education (Table 8)

As indicated in Table 8, almost half of the respondents have attended in-services on outdoor education.

TABLE 8

IN-SERVICES ATTENDED RELATED TO OUTDOOR EDUCATION

(F: 4b)

	Not Stated	Yes	No	Total
Number of Teachers	6	45	44	95
Percentage of Teachers	6.3	47.4	46.3	100

B. Parents and Guardians

Parent/Guardian Respondents to the Questionnaire/ Opinionnaires (Table 9)

A total of 204 representatives of families or hostel parents responded to the questionnaires. In two cases where the parents disagreed, the data was recorded as two separate questionnaires. This enlarged the total number of questionnaires to 206. The largest number of questionnaires were completed concurrently by both parents. As disclosed in Table 9, more individual responses were made by females than by males.

TABLE 9

PARENT/GUARDIAN RESPONDENTS TO THE QUESTIONNAIRE/OPINIONNAIRES

(Final Question)

	Not Stated	Male	Female	Both	Total
Number of Questionnaire/ Opinionnaires	15	22	72	97	206
Percentage of Questionnaire/ Opinionnaires	7.3	10.7	35.0	47.1	100

Grade Levels of Parents'/Guardians' Children (Table 10)

As shown in Table 10, the greatest number of respondents had children in grades IV to VII, while the smallest number of respondents had children in kindergarten and grades I to III, which was probably due to the fact that the youngest children taking home questionnaire/opinionnaires to their parents were in grade VI. Many parents and guardians had children in more than one level. The total number of questionnaire/opinionnaires received was 206.

Children's Involvement in Outdoor Education (Tables 11 and 12)

As indicated in Tables 11 and 12, most children have been involved in outdoor education activities. Of the activities reported, most children took part in outdoor activities of less than one-half day in length.

TABLE 10

GRADE LEVELS OF PARENTS' AND GUARDIANS' CHILDREN

(N = 206)

(A: 1)

	Kindergarten	Grades I-III	Grades IV-VII	Grades VIII-IX	Grades X-XII
Number of Students Represented	17	59	162	107	62
Percentage of Students Represented From Each Grade	8.3	28.6	78.6	51.9	30.1

TABLE 11

CHILDREN'S INVOLVEMENT IN OUTDOOR EDUCATION ACTIVITIES LESS THAN ONE-HALF DAY IN LENGTH

(A: 2a)

	Not Stated	Yes	No	Total
Number of Children	13	169	24	206
Percentage of Children	6.3	82.0	11.7	100

S.

TABLE 12

CHILDREN'S INVOLVEMENT IN OUTDOOR EDUCATION ACTIVITIES ONE-HALF DAY OR MORE IN LENGTH

(A: 2b; Parents)

	Not Stated	Yes	No	Total
Number of Children	11	144	51	206
Percentage of Children	5.3	69.9	24.8	100

C. Grades IX and XII Students

Grade Level and Sex of Respondents (Table 13)

As indicated in Table 13, there were more than twice as many grade IX students as grade XII students represented and a few more girls than boys.

Involvement in Outdoor Education Activities (Tables 14 and 15)

Most of the respondents reported past involvement in outdoor education activities. More were involved in activities of less than one-half day in length than activities of more than one-half day in length. This fact is indicated in Tables 14 and 15.

TABLE 13

GRADE LEVEL AND SEX OF RESPONDENTS

Cross Tabulation

(A: 1, 3; Grades IX and XII)

The first number indicates the number of students and the second number the percentage of grades IX and XII students.

Grade Level	Not Stated	Male	Female	Total
Grade IX	6 1.9	102 32.7	103 33.0	211 67.6
Grade XII	7 2.2	40 12.8	54 17.3	101 32.4
Total	13 4.2	142 45.5	157 50.3	312 100

TABLE 14

GRADES IX AND XII INVOLVEMENT IN OUTDOOR EDUCATION ACTIVITIES OF LESS THAN ONE-HALF DAY IN LENGTH

(A: 2a)

	Not Stated	Yes	No	Total
Number of Students	1	278	33	312
Percentage of Students	.3	89.1	10.6	100

TABLE 15

GRADES IX AND XII INVOLVEMENT IN OUTDOOR EDUCATION ACTIVITIES OF MORE THAN ONE-HALF DAY IN LENGTH

(A: 2b)

	Not Stated	Yes	No	Total
Number of Students	4	243	65	312
Percentage of Students	1.3	77.9	20.8	100

D. Grade VI Students

Sex of Respondents (Table 16)

In grade VI, there were more boys than girls represented by the questionnaire/opinionnaire. The number and sex of respondents is shown in Table 16.

TABLE 16

SEX OF RESPONDENTS

(A: 2; Grade VI)

	Not Stated	Boy	Girl	Total
Number of Students	1	145	120	266
Percentage of Students	.4	54.5	45.1	100

Involvement in Outdoor Education Activities (Tables 17 and 18)

More students were involved in outdoor education activities of a half day or less in length than more than a half day in length. This difference is indicated in Tables 17 and 18.

TABLE 17

GRADE VI INVOLVEMENT IN OUTDOOR EDUCATION ACTIVITIES OF ONE-HALF DAY OR LESS IN LENGTH

(A: 1a)

	Not Stated	Yes	No	Total
Number of Students	1	248	17	266
Percentage of Students	.4	93.2	6.4	100

TABLE 18

GRADE VI INVOLVEMENT IN OUTDOOR EDUCATION ACTIVITIES OF MORE THAN ONE-HALF DAY IN LENGTH

(A: 1b)

	Not Stated	Yes	No	Total
Number of Students	0	223	43	266
Percentage of Students	0	83.8	16.2	100

Data Related to Readiness

Readiness: For the purpose of this study, readiness is defined as seeing value in and having the willingness and ability to execute.

In Chapter II the feasibility of using Rogers' and Shoemaker's (1971) change model as an indicator of readiness was documented. The readiness aspect was based on their "paradigm of variables determining the rate of adoption of innovations" (1971, p. 158) presented on page 4 of this study. Rogers and Shoemaker described these five variables as the: a) perceived attributes of the innovation, b) type of innovation-decision, c) communication channels, d) nature of the social system, and e) extent of change agents' and opinion leaders' promotion efforts.

A. Perceived Attributes of the Innovation

In reference to the five attributes of the innovation, Rogers and Shoemaker stress the importance of the perceptions of the adopters over the perceptions of experts.

1. Perceived Relative Advantage (Table 19)

The teachers' perceived relative advantage of outdoor education is shown in Table 19. This table reports the response breakdown from four related questions (C: 5, 6, 7, 8). A large majority of respondents agree or strongly agree that outdoor education makes classroom learning more meaningful. In regards to: 1) increasing students'

TABLE 19

PERCEIVED RELATIVE ADVANTAGE OF OUTDOOR EDUCATION

(C: 5-8; Teachers)

Note: The first number for each statement represents the number of teachers (N = 95) and the second number represents the percentage of teachers.

Statements	Not Stated	Strongly Disagree	Disagree	Neutral or No Opinion	Agree	Strongly Agree
Outdoor education activities make classroom learning more meaningful.	2 2.1	2 2.1	5 5.3	11 11.6	49 51.6	26 27.4
NOTE: For the next three questions, mark neutral if you find outdoor activities and classroom activities of equal value.						
Outdoor activities are better than classroom activities for increasing students' awareness and concern for the environment.	5 5.3	3 3.2	17 17.9	32 33.7	26 27.4	12 12.6
Outdoor activities provide better opportunities than classroom activities for improving students' understandings of others.	5 5.3	2 2.1	19 20.0	36 37.9	25 26.3	8 8.4
Outdoor activities provide better opportunities than classroom activities for: growth in such areas as cooperativeness, judgements and responsibility.	5 5.3	2 2.1	14 14.7	35 36.8	31 32.6	8 8.4

awareness and concern for the environment, 2) improving students' understandings of others, and 3) growth in social responsibilities, the largest number of teachers considered outdoor activities and classroom activities of equal value. Of the remaining teachers, more favored outdoor activities than classroom activities in these three areas of learning. These responses are one indication of the value teachers saw in outdoor education as related to their readiness for outdoor education.

The following list contains teachers' comments related to their perceived relative advantage of outdoor education:

> "Outdoor education is an extension of the classroom. Skills and knowledge introduced or learned in the class could be extended, tested or applied in the outdoor setting."
>
> "Dependent on a structured program. Having no experience with a structured program, I would remain neutral (Section C: 6-10), but philosophically would agree."
>
> "This offers students a practical application of all the biological material brought before them in the formal classroom sessions."
>
> "I would take my class to more places if it were easier to make transportation arrangements."
>
> "Capital costs for equipment are large."

2. Perceived Compatibility (Tables 20, 21, 22, 23, 24)

Perceived compatibility is another indicator of the value seen in outdoor education by teachers plus their willingness to execute the innovation. The teachers' perceived value or compatibility of outdoor education appeared to be relatively high. That outdoor education should be part of the curriculum at some, or all, grade levels was reported by 84.2% of the teachers. That students should have the opportunity to study the effects of human activities on the environment was expressed by 81.1% of the teachers. The recreational aspect of outdoor education was considered by over 70% of the teachers to be a school concern. A similar number of teachers felt that outdoor education activities could be related to more than two subjects in the present curriculum.

Several questions on the questionnaire express the perceived compatibility of outdoor education. These questions include C: 1, 2, 3, 9, and D: 1 and 2a) and 2b) and are shown in Tables 20, 21, 22, and 23 respectively. Table 24 (question B: 3c)) exhibits the present involvement of teachers in outdoor education. (Only teachers stating involvement in outdoor education within the last four years were asked to answer this.)

A comparison of Tables 22 and 24 gives an indication that teachers see value in a greater amount of outdoor education than typically is being carried out in the school. This discrepancy may be due to the perceived complexity, the perceived nature of the social system, or the extent of opinion leaders' promotion efforts. The report of fifty days presently spent on outdoor education was submitted by the outdoor education specialist.

Table 21 indicates the grades where teachers consider more extensive outdoor education programs to be of greatest value (or to have highest compatibility). Over 50% of the teachers chose grade VII, over 35% chose each of grades VI to IX, and over 25% chose each of grades IV to X. There was a rather sharp decline at both ends of the grades IV to X range.

Teachers' comments related to the perceived compatibility of outdoor education were:

> "They are invaluable for - learning experiences
> - for developing rapport
> - for social interaction."
>
> "Visiting businesses is very important in Business Education."
>
> "Would like to have more 'knowledge' in some areas. Enjoy activities (outdoors) related to art, social studies."
>
> "Cost of transportation prohibitive. Requesting time away from regular teaching duties and time-table interruption causes other teachers concern."
>
> "There is a pond, a dry hill and a forested area within walking distance of the school. Ideal for studying various biomes."
>
> "I will probably do more outdoor activities next year."
>
> "Activities such as cross country skiing, camping, canoeing, etc. have had a definite positive effect for students."
>
> "In the primary area, the type of class you have plays a major part in deciding where to go."
>
> "Strongly in favor of goals and benefits of outdoor education, but lack knowledge and direction."
>
> "I feel nature walks, field trips, etc. offer a valid learning experience and an interesting and different approach to students."
>
> "I am a new teacher in Whitehorse and I limited my activities this year because of lack of information re outdoor education."
>
> "The maturity of the particular group of students is of importance when considering these activities."
>
> "Are often most stimulating for correlated programs - gives other voices and ideas besides mine."

"I consider it an essential on-the-spot learning situation."

"Not specific enough. Going to the firehall is a different task than canoeing for a weekend."

"Applying the basic concepts in a highly structured educational system creates excess work which detracts from the enthusiasm of the program."

"Depends on interest and motivation."

"Weather in Yukon plays such a limiting factor."

"Boring - waste of good teaching time."

"I hope this opinionnaire will be instrumental in stimulating more interest and involvement in outdoor education in the Yukon."

"I feel outdoor education can stimulate students and spark their imaginations in many areas that the classroom situation could never offer."

"I consider a certain amount of outdoor education of great value but definitely do not feel it can take the place of all classroom learning."

"Should be balanced by related classwork."

"Ideally Outward Bound type as the ultimate goal."

"In order to answer this question one should first agree to outdoor education."

"Outdoor education does have a place - but it would be easy to overdo it."

"Outdoor education should not interfere with classroom activities. Field trips, especially conducted for Science, Geography, Geology are different from 'outdoor education' and are, if pertinent, extremely valid."

"It is insane to compare classroom learning to outdoor education. Outdoor activities are in too much danger of becoming just an activity rather than an education - unless it is well-planned and structured."

TABLE 20

PERCEIVED COMPATIBILITY OF OUTDOOR EDUCATION

(C: 1, 2, 3, 9; Teachers)

Note: The first number for each statement represents the number of teachers (N = 95) and the second number represents the percentage of teachers.

Statements	Not Stated	Strongly Disagree	Disagree	Neutral or No Opinion	Agree	Strongly Agree
Outdoor education should be part of the curriculum at some or all grade levels.	1 1.1	3 3.2	6 6.3	5 5.3	47 49.5	33 34.7
Schools should offer opportunities for students to experience outdoor education such as hiking, canoeing and taking care of themselves in the outdoors.	2 2.1	3 3.2	9 9.5	11 11.6	35 36.8	35 36.8
Students should have the opportunity to study directly the effects of human activities like road construction, pipeline construction or mining on the environment. They will then be better able to make reasonable judgements on environmental issues (i.e. balancing good and bad effects of present methods of development).	0 0	2 2.1	5 5.3	11 11.6	49 51.6	28 29.5
Outdoor activities can be related to more than two subjects in the present curriculum.	5 5.3	2 2.1	4 4.2	13 13.7	51 53.7	20 21.1

TABLE 21

GRADES WHERE OUTDOOR EDUCATION IS CONSIDERED MOST VALUABLE

(D: 1; Teachers)

Grade	Number of Teachers Choosing	Percentage of Teachers Choosing
Kindergarten	13	13.7
Grade I	14	14.7
II	9	9.5
III	10	10.5
IV	27	28.4
V	29	30.5
VI	44	46.3
VII	50	52.6
VIII	37	38.9
IX	38	40.0
X	28	29.5
XI	13	13.7
XII	15	15.8

Note: 1) Each teacher was asked to choose four grades.

2) 13 teachers did not respond to this question. Two of these teachers stated that they did not see any value in outdoor education and therefore did not choose any grades.

3) N = 95.

TABLE 22

DESIRED TIME TO BE SPENT ON OUTDOOR EDUCATION ACTIVITIES

(D: 2a; Teachers)

Note: 1) Possible N = 95.
2) This is based on outdoor education being offered at all grade levels.

Grade	Smallest Number of Days Desired	Largest Number of Days Desired	Average Number of Days Desired	Standard Deviation	Sample Size
Kindergarten	1	65	10.87	12.12	67
Grade III	1	65	11.32	13.01	71
Grade VI	1	65	13.55	13.09	73
Grade IX	0	90	14.41	16.50	70
Grade XII	0	65	13.81	12.29	69

TABLE 23

OUTDOOR EDUCATION PROGRAM AT ALL GRADE LEVELS

(D: 2b; Teachers)

	No Response	Yes	No	Total
Should outdoor education activities be part of the program of studies at all grade levels?	13	72	10	95
	13.7	75.8	10.5	100

TABLE 24

TIME SPENT THIS YEAR ON OUTDOOR EDUCATION ACTIVITIES

(B: 3c; Teachers)

	Smallest Number of Days	Largest Number of Days	Average Number of Days	Sample Size
Teachers Involved in Outdoor Education in the Past Four Years	0	50	7.16	50

3. Perceived Complexity (Table 25)

The largest group of teachers who had been involved in outdoor education activities reported that outdoor education has about the same complexity as classroom teaching. Teachers stated that understanding the purpose of their involvement in outdoor education was relatively easy. However, developing and carrying out outdoor activities was considered, by most teachers who did not consider this of equal difficulty to classroom activities, to be difficult. The most difficulty was found to be in developing activities. This difficulty is indicated in Table 25. Perceived complexity related to all three aspects of readiness but primarily to the ability aspect. These three aspects of readiness are 1) relative value, 2) willingness, and 3) ability to execute.

Teachers' comments relating to the complexity of outdoor education:

"My experiences are only with short field trips."

"It's hard because of the legal aspect. You have a whole class and some are irresponsible and don't want to participate."

"Curriculum indicating aims, objectives and activities must be formalized. At the moment it depends on whim."

"But boring."

"Depends on the individual and his degree of competency."

TABLE 25

PERCEIVED COMPLEXITY OF OUTDOOR EDUCATION

(A: 1-4; Teachers)

Note: The first number given indicates the number of teachers (N = 68) and the second number the percentage of teachers.

Statement	Not Stated	Extremely Difficult	Relatively Difficult	Average Difficulty	Relatively Easy	Extremely Easy
Identifying the objectives of outdoor education is ...	0 0.0	3 4.4	7 10.3	30 44.1	24 35.3	4 5.9
Understanding what is expected of you as a teacher of outdoor education is ...	1 1.6	3 4.4	13 19.1	25 36.8	23 33.8	3 4.4
Developing activities in outdoor education is ...	0 0.0	1 1.5	22 32.4	25 36.8	17 25.0	3 4.4
Carrying out activities in outdoor education is ...	1 1.5	3 4.4	16 23.5	33 48.5	12 17.6	3 4.4

4. Perceived Observability (Table 26)

The perceived observability also relates to the three aspects of readiness, but primarily to the ability aspect. Those teachers involved in outdoor education generally found describing to others the effects of outdoor education to be of average difficulty; but, these teachers found discussing with colleagues the philosophies and strategies of outdoor education to be relatively easy. Perceived observability is shown in Table 26.

TABLE 26

PERCEIVED OBSERVABILITY OF OUTDOOR EDUCATION

(A: 5, 6; Teachers)

Note: The first number indicates the number of teachers (N = 68) and the second number the percentage of teachers.

Statement	Not Stated	Extremely Difficult	Relatively Difficult	Average Difficulty	Relatively Easy	Extremely Easy
Describing to others the effects of outdoor education on the students is ...	1 1.5	2 2.9	18 26.5	28 41.2	16 23.5	3 4.4
Discussing with colleagues the philosophies and strategies of outdoor education is ...	4 5.9	5 7.4	10 14.7	21 30.9	24 35.3	4 5.9

5. Perceived Trialability (Table 27)

The perceived trialability, as shown in Table 27, relates primarily to the willingness and ability aspects of readiness. More than 80% of the teachers agreed or strongly agreed that it was relatively easy to try outdoor education without a binding commitment.

TABLE 27

PERCEIVED TRIALABILITY OF OUTDOOR EDUCATION

(C: 10; Teachers)

Note: The first number indicates the number of teachers (N = 95) and the second number the percentage of teachers.

Statement	Not Stated	Strongly Disagree	Disagree	Neutral or No Opinion	Agree	Strongly Agree
Outdoor education activities can be implemented a little at a time; it is not a matter of "all or nothing".	3 3.2	2 2.1	4 4.2	6 6.3	58 61.1	22 23.2

B. Type of Innovation-Decision (Tables 28, 29, 30)

The type of innovation-decision (individual, collective or authority) was cross-tabulated with the teacher's plans to continue involvement in outdoor education. As Table 30 shows, most decisions to become involved with outdoor education were made by the individual teachers. Approximately 92% of these teachers, who made individual decisions, planned to continue and 5.3% were undecided. None of these teachers planned to discontinue their involvement with outdoor education. Of those involved in a collective decision, 59.1% planned to continue, 27.3% were undecided, and 13.6% did not plan to continue. The one teacher who reported an authority decision did not plan to continue. The willingness aspect of readiness is highly involved. The long range effects of a lack of concern for readiness are indicated by the results of this cross-tabulation (Table 30).

Teachers' comments related to the innovation-decision:

> "A teacher has got to want to do such programs. Much depends on the teacher himself/herself."

> "It seems to be a curriculum question rather than an individual interest or qualification one."

> "Some teachers would not be good at outdoor education and this should not necessarily be held against them."

TABLE 28

TYPE OF DECISION

(B: 3a; Teachers)

	Not Stated	Individual	Collective	Authority	Total
Number of Teachers	7	38	22	1	68
Percentage of Teachers	10.3	55.9	32.4	1.5	100

TABLE 29

TEACHERS' PLANS TO CONTINUE OR DISCONTINUE

(B: 4; Teachers)

	Not Stated	Continue	Undecided	Discontinue	Total
Number of Teachers	3	50	10	5	68
Percentage of Teachers	4.4	73.5	14.7	7.4	100

TABLE 30

TYPE OF DECISION AND PLANS TO CONTINUE OR DISCONTINUE

Cross Tabulation

(B; 3a and 4; Teachers)

Type of Decision	Plans to Continue or Discontinue				
	Not Stated	Continue	Undecided	Discontinue	Total
Not Stated	2 (2.9)	2 (2.9)	2 (2.9)	1 (1.4)	7 (10.1)
Individual	1 (1.4)	35 (51.5)	2 (2.9)	0 (0.0)	38 (55.8)
Consensus	0 (0.0)	13 (19.1)	6 (8.8)	3 (4.4)	22 (32.3)
Authority	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.4)	1 (1.4)
Total	3 (4.3)	50 (73.5)	10 (14.6)	5 (7.2)	68 (100.0)

Note: The first number in each block represents the number of teachers, and the second number () the percentage of the total.

C. Communication Channels (Tables 31 and 32)

The effect of past communication channels on those teachers involved in outdoor education is disclosed in Table 31. The communication channels considered to be most desirable have been tabulated in Table 32.

The past communication channel considered to have the most effect on those teachers involved in outdoor education was informal contact with a colleague. Periodical articles were considered to be almost as effective. Membership or involvement with clubs or organizations interested in the outdoors, teaching guides or manuals, books about outdoor education and teacher workshops were all considered to have had a relatively high effect on the value teachers saw in outdoor education. Approximately 70% of those teachers involved in outdoor education reported having had no discussion with educational consultants or university course experience in outdoor education. Most of those who had taken university courses, however, found that the courses had a large influence on their awareness of the value of outdoor education (see Table 31).

Three means of familiarization with outdoor education stood out as being most desirable (Table 32). The first means of familiarization was observation of lessons demonstrating the implementation of outdoor education. This opportunity is one that the Department of Education and Yukon Teachers' Association presently make available to teachers. The second means of familiarization was the availability of model units prepared specifically for the teacher's grade

TABLE 31

PERCEIVED DEGREE OF INFLUENCE OF PAST COMMUNICATION CHANNELS

(B: 1; Teachers)

Note: The first number indicates the number of teachers (N = 68) and the second number the percentage of teachers.

Factors Influencing Awareness of Value of Outdoor Education	Not Stated	No Experience With	No Influence	Small Influence	Large Influence	Total
Periodical articles about outdoor education	0 0.0	11 16.2	8 11.8	36 52.9	13 19.1	68 100
Books about outdoor education	1 1.5	12 17.6	8 11.8	37 54.4	10 14.7	68 100
Teaching guides or manuals on outdoor education	0 0.0	20 29.4	9 13.2	29 42.6	10 14.7	68 100
University courses on outdoor education	2 2.9	47 69.1	4 5.9	3 4.4	12 17.6	68 100
Teacher workshops or professional development courses in outdoor education	0 0.0	28 41.2	4 5.9	27 39.7	9 13.2	68 100
Non-credit special interest courses which relate to outdoor learning	0 0.0	38 55.9	3 4.4	19 23.5	11 16.2	68 100
Membership or involvement with any clubs or organizations with strong interests in the out-of-doors	1 1.5	23 33.8	5 7.4	17 25.0	22 32.4	68 100
Informal contact with a colleague	0 0.0	10 14.7	5 7.4	33 48.5	20 29.4	68 100
Discussion with an educational consultant	2 2.9	48 70.6	7 10.3	6 8.8	5 7.4	68 100

TABLE 32

DESIRABILITY OF COMMUNICATION CHANNELS

(E; Teachers)

Note: 1) Each teacher was asked to choose three (3) means of familiarization.

2) Thirteen teachers did not respond to this question. (N = 95)

Means of Familiarization	Number of Teachers Choosing	Percentage of Teachers Choosing
Membership on an active unit planning committee	13	13.7
Workshops and seminars operated by visiting personnel	15	15.8
Workshops and seminars operated by local personnel	55	57.9
Conferences on outdoor education with expert speakers, etc.	16	16.8
University courses in outdoor education	14	14.7
Availability of current books and journals on outdoor education	13	13.7
Observation of lessons demonstrating the implementation of outdoor education	60	63.2
Availability of model units prepared specifically for your grade level	56	59.0
Other	4	4.2

level. The third means of familiarization was workshops and seminars operated by local personnel.

Teachers' comments related to communication channels:

> "Local experts can be utilized for in-services."

> "Outside experts are of little value in a local situation. Well educated people in the community deal in a more valuable way with local issues concerning the outdoor experience."

> "A teacher with a strong academic background in his/her discipline should be able, without special 'outdoor' training, to organize valid and worthwhile extramural activities."

> "Have attended many courses in areas related to outdoor education (e.g. skiing, hiking), but not specifically related to the school."

> "Regina (City and University) developed outdoor education curriculum and are quite advanced in this area."

> "I feel that a great deal of teacher training in this field is necessary for expansion of activities in this area."

> "In-services at Whitehorse Elementary School were very helpful."

> "I would be very interested in attending an outdoor education in-service."

> "Experience in outdoor education is the best teacher."

Although this information did not help directly in the indication of readiness, it did give an indication of the most effective and desirable means of communication perceived by the teachers. This knowledge could be valuable in implementing a program.

D. Nature of the Social System

In consideration of the nature of the social system two things are revealed. These things are the results of the student and parent questionnaire/opinionnaires and the teachers' perceptions of: a) the value that parents place on outdoor education, and b) the amount of assistance received from the community.

Community Assistance (Table 33)

The amount of community assistance received by those teachers who reported involvement in outdoor education in the last five years is reported in Table 33. Approximately 70% of involved teachers stated that other government agencies and parents assisted in teachers' programs. That other government agencies had been of great assistance was reported by 20% of the teachers. Almost 30% of the teachers reported that private enterprise assisted with their outdoor education programs.

One comment related to community assistance was made:

> "The role of outside agencies and their involvement has not really been considered."

Teachers' Perception of Parents' Perceived Value of Outdoor Education (Table 34)

The teachers' perception of the value that parents place on outdoor education is expressed in Table 34. The largest group of teachers were neutral on the parents' perceived value. The perception that the parents placed a low value on outdoor education was expressed by 34.7% of the teachers. The perception that the parents placed a high value on outdoor education was expressed by 20% of the teachers.

TABLE 33

COMMUNITY ASSISTANCE

(B: 2f, b, g; Teachers)

Note: The first number indicates the number of teachers (N = 68) and the second number the percentage of teachers.

Statement	Not Stated	No Assistance	Some Assistance	Great Assistance
Government agencies (e.g. fisheries, forestry, wildlife, etc.)	1 1.5	17 25.0	36 52.9	14 20.6
Parents or guardians of your students	4 5.9	17 25.0	41 60.3	6 8.8
Private enterprise	8 11.8	40 58.8	16 23.5	4 5.9

TABLE 34

TEACHERS' PERCEPTION OF PARENTS' PERCEIVED VALUE OF OUTDOOR EDUCATION

(C: 4; Teachers)

Note: The first number indicates the number of teachers (N = 95) and the second number the percentage of teachers.

Statement	Not Stated	Strongly Disagree	Disagree	Neutral or No Opinion	Agree	Strongly Agree
I believe that parents place a high value on outdoor education activities for the students I teach.	2 2.1	6 6.3	27 28.4	41 43.2	14 14.7	5 5.3

Parents' Perceived Value of Outdoor Education

The actual value of outdoor education, as perceived by the parents, is expressed in Tables 35, 36, and 37. As indicated in Table 35, most of the parents place high value on outdoor education. The parent agreement or strong agreement with positive statements (B: 6-8) related to the "relative advantage" of outdoor education ranged from 46.1% to 51.9%. The parent disagreement with these same statements ranged from 11.2% to 16%. The parent agreement or strong agreement with positive statements (B: 1-5, 9) related to the "compatibility" of outdoor education ranged from 63.6% to 82.5%. The parent disagreement or strong disagreement with positive statements related to the "compatibility" of outdoor education ranged from 4.9% to 14.6%.

Some parents' comments on the perceived value of outdoor education were:

> "While we are more or less neutral on field trips to industry, offices and the like, we are strongly opposed to any form of outward bound being introduced into our regular school system."

> "Before coming here out children were in outdoor education programs, e.g. outdoor survival, which proved very successful. In our environment I feel a strong necessity for this program."

> "It should be the parents' responsibility."

> "The lack of physical exercise in the school is very prevalent in Yukon schools and should be immediately changed."

> "Children need more outdoor awareness than the parents can provide. Teachers have the most hours with the children and could have a great influence."

> "Agree if used in a limited way - not interfering with academic education. There are too many extra activities now."

TABLE 35

PARENTS' PERCEIVED COMPATIBILITY OF OUTDOOR EDUCATION

(B: 1-9; Parents)

Note: The first number indicates the number of respondents (N = 206) and the second number the percentage of respondents.

Statement	Not Stated	Strongly Disagree	Disagree	Neutral or No Opinion	Agree	Strongly Agree
Outdoor education should be part of the program of studies at some grade levels.	17 8.3	8 3.9	22 10.7	7 3.4	77 37.4	75 36.4
Outdoor education should be part of the program of studies at all grade levels.	8 3.9	5 2.4	14 6.8	9 4.4	74 35.9	96 46.6
Schools should offer opportunities for students to experience outdoor recreation such as hiking, canoeing and taking care of themselves in the outdoors during regular school hours.	5 2.4	10 4.9	14 6.8	9 4.4	84 40.8	84 40.8
Students should have the opportunity to study directly the effects of human activities like road construction, pipeline construction or mining on the environment so they can make reasonable judgements on environmental issues (i.e. balancing good and bad effects of present methods of development).	3 1.5	8 3.9	12 5.8	14 6.8	91 44.2	78 37.9
Outdoor activities make classroom learning more meaningful.	9 4.4	3 1.5	7 3.4	18 8.7	76 36.9	93 45.1

Continued

TABLE 35 (Continued)

Statement	Not Stated	Strongly Disagree	Disagree	Neutral or No Opinion	Agree	Strongly Agree
Note: Whether or not you or your children have been involved in outdoor education activities, please answer these items as outlined, based on the definition on page 1. For the next three questions only, circle (3) if you find outdoor activities and classroom activities of equal value.						
In general:						
Outdoor activities are better than classroom activities for increasing students' awareness and concern for the environment.	10 4.9	6 2.9	17 8.3	66 32.0	74 35.9	33 16.0
Outdoor activities provide better opportunities than classroom activities for improving students' understandings of others.	9 4.4	6 2.9	29 13.1	69 33.5	70 34.0	25 12.1
Outdoor activities provide better opportunities than classroom activities for growth in such areas as cooperativeness, judgements and responsibility.	9 4.4	6 2.9	22 10.7	74 35.9	64 31.1	31 15.0
I believe that outdoor activities can be used in more than two subjects in the present school program.	11 5.3	5 2.4	14 6.8	45 21.8	95 46.1	36 17.5

"Outdoor education programs enthuse the students."

"The questionnaire is too biased."

"The more children can see by actual contact with the living, producing and working world, the better they will be able to cope when they have to enter it full time (i.e. reality of life)."

"Most of these questions do not provide a sufficient basis for judgement and are akin to asking if one is in favor of motherhood and against sin, overlooking the fact that the former is quite frequently the direct result of the latter."

"This questionnaire is hard to read, difficult to figure out."

"I feel this type of education will develop a keener interest in learning, especially in ages 9-14. It should decrease the boredom of book learning (which this age group from my experience seems to encounter). Giving them an opportunity to learn by seeing and doing, thus establishing an ability to apply their classroom learning to things in our everyday surroundings is extremely useful."

"For some, at the difficult ages of 13-15, they might as well be out cutting cordwood. The idea is excellent if the students don't use it for opting out. If the students took it relatively seriously, they would really benefit from it."

"This is an excellent concept if the students receive a balanced viewpoint of ecological and environmental as well as economical and societal considerations. Much would depend on the suitability (i.e. maturity) of the teachers. Not all teachers have the maturity and capability."

"Please can we put the environment aside for a moment and consider the practical business of earning a living."

"The policy of visiting parents' place of work is good, except they should be allowed to visit other places."

"Outdoor education supplemented with classroom analysis of the activity and its results would be very worthwhile."

"Outdoor education can be a very useful tool, but can be badly abused becoming a gimmick. I am in favor - with reservations."

> "If outdoor education does materialize, which I hope it does, volunteers could be very useful."

Table 36 reveals that parents considered grades VI, VII, VIII and IX to be the grades where students would benefit most from outdoor education. These are the same grades that the teachers considered would benefit most from more extensive outdoor education programs.

Table 37 indicates that most parents not only saw value in outdoor education but wanted their children to have approximately twice as many days involved with outdoor education activities as teachers wanted (Table 22) and more than three times what the students were presently receiving.

Parent comments relating to grades of students considered to benefit most from "more extensive outdoor education" and the "amount of time to be spent on outdoor education" were:

> "Outdoor education is good in its proper perspective, but let's not make another 'bandwagon' out of it."
>
> "Not enough, should be mandatory in every grade."
>
> "Each of the above groups should spend approximately one day a week on a field trip. Grade XII needs less activity time as their trips would probably entail more and be grouped together."
>
> "Kindergarten through XII if the student so desires."
>
> "I can't just give four grades. Should be a continual program."
>
> "I would not see it as specified number of days but based on course content and the teacher's ability to make use of the option of the outdoors and environment."
>
> "We think that if a proper program is set up by the school system, there is no reason why 2 days a month wouldn't be sufficient."

TABLE 36

GRADES WHERE PARENTS CONSIDERED OUTDOOR EDUCATION MOST VALUABLE

(C: 1; Parents)

Grade	Number of Parents Choosing	Percentage of Parents Choosing
Kindergarten	25	12.0
Grade I	26	12.7
II	23	11.2
III	37	18.0
IV	39	18.8
V	55	26.8
VI	116	56.4
VII	107	52.0
VIII	96	46.8
IX	88	42.8
X	53	25.6
XI	34	16.4
XII	30	14.4

Note: 1) Respondents were asked to choose four grades.

2) 24 respondents did not respond to this question.

3) N = 206.

TABLE 37

DESIRED TIME TO BE SPENT ON OUTDOOR EDUCATION ACTIVITIES

(C: 2; Parents)

Note: 1) This is based on outdoor education being offered at all grade levels.

2) Possible N = 206.

Grade	Smallest Number of Days Desired	Largest Number of Days Desired	Average Number of Days Desired	Standard Deviation	Sample Size
Kindergarten	0	120	24.61	23.54	157
Grade III	0	120	22.90	18.99	161
Grade VI	0	120	25.51	19.79	168
Grade IX	0	120	26.87	20.84	164
Grade XII	0	120	26.04	21.39	164

"Same amount as they have been having."

"Students learn much better from first hand experience - as grades increase trips out decrease, but they could be for longer periods (2 or 3 days at a time)."

Grades IX and XII Students' Perceived Value of Outdoor Education

To students in grades IX and XII the perceived value of outdoor education is disclosed in Tables 38, 39 and 40. Table 38 indicates that students generally placed a slightly higher value on outdoor education than the parents. Not all students, however, placed a high value on outdoor education.

TABLE 38

GRADES IX AND XII STUDENTS' PERCEIVED VALUE OF OUTDOOR EDUCATION

(B: 1-9; Grades IX and XII)

Note: The first number indicates the number of respondents (N = 312) and the second number the percentage of respondents.

Statement	Not Stated	Strongly Disagree	Disagree	Neutral or No Opinion	Agree	Strongly Agree
Outdoor education should be part of the program of studies at some grade levels.	3 1.0	16 5.1	27 8.7	16 5.1	110 35.3	140 44.9
Outdoor education should be part of the program of studies at all grade levels.	3 1.0	4 1.3	26 8.3	34 10.9	92 29.5	153 49.0
Schools should offer opportunities for students to experience outdoor recreation such as hiking, canoeing and taking care of themselves in the outdoors during regular school hours.	1 0.3	2 0.6	4 1.3	11 3.5	90 28.8	204 65.4
Students should have the opportunity to study directly the effects of human activities like road construction, pipeline construction or mining on the environment. They will then be better able to make reasonable judgements on environmental issues (i.e. balancing good and bad effects of present methods of development.	1 0.3	4 1.3	12 2.8	41 13.1	117 37.5	137 43.9
Outdoor activities make classroom learning more meaningful.	10 3.2	4 1.3	8 2.6	34 10.9	110 35.3	146 46.8

Continued

TABLE 38 (Continued)

Statement	Not Stated	Strongly Disagree	Disagree	Neutral or No Opinion	Agree	Strongly Agree
NOTE: Whether or not you have been involved in outdoor education activities, answer these items as outlined below, based on the definition on page 1. For the next three questions only, circle (3) if you consider outdoor activities and classroom activities of equal value.						
In general:						
outdoor activities are better than classroom activities for increasing students' awareness and concern for the environment.	3 1.0	4 1.3	12 3.8	57 18.3	102 32.7	134 42.9
outdoor activities provide better opportunities than classroom activities for improving students' understandings of others.	3 1.0	3 1.0	21 6.9	86 27.6	102 32.7	97 31.1
outdoor activities provide better opportunities than classroom activities for growth in such areas as cooperativeness, judgements and responsibility.	5 1.6	3 1.0	13 4.2	70 22.4	110 35.3	111 35.6
I believe that outdoor activities can be used in more than two subjects in school.	4 1.3	3 1.0	7 2.2	55 17.6	106 34.0	137 43.9

Comments from students in grades IX and XII on the value of outdoor education included:

> "I learned a lot from Christ the King High School canoe trips."

> "I think outdoor activities are a waste of time because the kids just goof off."

> "You should not forget that you should go to school to learn school subjects."

> "Although some kids may take advantage of it, there are more important things than books, etc. - like learning about people and your own environment. Being outside with both helps you to see past books and conforming."

> "Outdoor activities let an individual get to know themselves better."

> "The Yukon is one of the few places in North America with a wilderness. I believe we (students) should learn to enjoy and take care of it while we have it."

> "I think outdoor recreation is a good way of learning more about the world and how to live in it."

> "Outdoor activities for survival should be set up for students."

> "Some people may not have a chance to learn about the outdoors with their families so they should be taught at school."

> "You need real-life experience to make meaningful what you learn in class."

> "I believe that if there are outdoor activities they should be organized so that people learn on them."

> "I believe that only a certain number of responsible students should be given outdoor activities."

> "Good training - helps some people, shouldn't be forced upon someone though."

> "Outdoor activities should be allowed in school but only to a certain extent."

> "To make those programs work, you would have to ensure the correct people are teaching."

> "I find that outdoor activities make learning more interesting and useful."
>
> "Students may learn many subjects in school but will not learn life until they touch and experience it."
>
> "Let's learn about our economy and environment while we're in school, because what we do will affect us and others."

The grades where outdoor education activities were considered most valuable by the grades IX and XII students were grades VI to XII. Grade IX students were asked to pick four grades from grades K to IX and grade XII students were asked to pick four grades from grades K to XII. Students in grades IX and XII desired more time to be spent on outdoor education activities than the parents (see Tables 37 and 40). A point worthy of consideration is the value some grades IX and XII students placed on outdoor education for kindergarten.

Students in grades IX and XII made the following comments relating to the grades that would benefit most from, and the amount of time to be spent on, outdoor education:

> "It would be healthy for outdoor awareness if students could participate in this program in all grades."
>
> "It would be best for grades IV to VI because they are easier to handle."
>
> "I hope that most students in lower grades than I could get to go on more trips and learn more about what they are."
>
> "Grade XII students should concentrate on indoor work for their last year before graduation."
>
> "I feel that at the grade XII level, more outdoor education should be offered because it gives the student a chance to see how the 'adult' world works."

TABLE 39

GRADES WHERE GRADES IX AND XII STUDENTS CONSIDERED OUTDOOR EDUCATION MOST VALUABLE

(C: 1; Grades IX and XII)

Grade		Number of Students Choosing	Percentage of Students Choosing
Kindergarten		20	6.4
Grade I		38	12.2
II		31	9.9
III		44	14.1
IV		59	18.9
V		88	28.2
VI		159	51.0
VII		181	58.0
VIII		165	52.9
IX		222	71.2
X	Answered by Grade XII only	63	62.4
XI		63	62.4
XII		62	61.4

Note: 1) Respondents were asked to choose four grades.

2) For grades K to IX: N = 312. For grades X to XII: N = 101.

3) 13 respondents did not respond to this question.

TABLE 40

DESIRED TIME TO BE SPENT ON OUTDOOR EDUCATION ACTIVITIES

(C: 2; Grades IX and XII)

Note: 1) This table is based on outdoor education being offered at all grade levels.

2) A sizable number of 100+ days indicated in () were reported but not considered in the average.

3) Possible N = 312.

Grade	Smallest Number of Days Desired	Largest Number of Days Desired	Average Number of Days Desired	Standard Deviation	Sample Size	100+ Days
Kindergarten	0	95	29.65	25.99	274	(14)
Grade III	0	95	27.40	22.26	286	(6)
Grade VI	0	95	27.50	20.81	284	(7)
Grade IX	0	95	29.82	22.82	282	(7)
Grade XII	0	95	29.03	23.31	95	(3)

"Only the elementary grades hold enough interest to benefit from any field trips."

"If you start out-of-doors classes at early grades, when you get into higher grades you notice and learn more because you're used to the environment."

Grade VI Students' Perceived Value of Outdoor Education

The perceived value of outdoor education, as indicated by the grade VI students, is shown in Table 41. They considered outdoor education to be slightly more valuable than the grades IX and XII students.

TABLE 41

GRADE VI STUDENTS' PERCEIVED VALUE OF OUTDOOR EDUCATION

(B: 1-8; Grade VI)

Note: The first number indicates the number of respondents (N = 266) and the second number the percentage of respondents.

Statement	Not Stated	Strongly Disagree	Disagree	Neutral or No Opinion	Agree	Strongly Agree
I think we should sometimes go outside for several subjects (e.g. science experiments, poem writing, nature art).	0 0.0	6 2.3	3 1.1	16 6.0	123 46.2	118 44.4
Most grades should have some outdoor activities.	1 0.4	2 0.8	2 0.8	9 3.4	87 32.7	165 62.0
Grades K to 6 should all have some outdoor activities.	0 0.0	0 0.0	3 1.1	19 7.1	98 36.8	146 54.9
Schools should help teach us outdoor skills like hiking, canoeing and taking care of ourselves in the outdoors.	0 0.0	2 0.7	13 4.9	33 12.4	59 22.2	159 59.8
Some changes that man makes to the outdoors are good and some changes are bad. We should go outside to see these changes and decide for ourselves their good points and bad points.	0 0.0	11 4.1	14 5.3	42 15.8	112 42.1	87 32.7
Using classroom learning combined with seeing real things is better than classroom learning by itself.	1 0.4	5 1.9	9 3.4	18 6.8	65 24.4	168 63.2
Outdoor education activities are better than classroom activities for learning to better understand other students and teachers	1 0.4	6 2.3	8 3.0	38 14.3	116 43.6	97 36.5
Outdoor education activities give more chances to learn responsibility and cooperativeness than classroom activities.	0 0.0	6 2.3	10 3.8	30 11.3	72 27.1	148 55.6

Representative grade VI comments on their perceived value of outdoor education:

> "I think it would teach us more about the place we live in and what to see and do."
>
> "I think outdoor activities are better because you get more interested in your work."
>
> "I think learning right there and then is better than learning in class."
>
> "Outdoor education helps a lot of people find themselves. Like me."
>
> "I think all grades should have outdoor education."

Although not everyone was in favor of school involvement in outdoor education, there was an indication that most of the community supported outdoor education and that the parents generally placed a considerably higher value on outdoor education than the teachers thought they did. This fact is vitally important to the "value" and "willingness" aspects of readiness.

E. Extent of Change Agents' and Opinion Leaders' Promotion Efforts (Table 42)

At the time of the study there was no official change agent but there were several leading teachers and administrators involved in outdoor education activities that were considered to be opinion leaders or unofficial change agents. As can be seen in Table 42, of all the teachers involved in outdoor education, 67.6% found other teachers on their staff to be of assistance in outdoor education and 57.4% found other teachers outside their school to be of

TABLE 42

CHANGE AGENT AND OPINION LEADER ASSISTANCE

(B: 2 a, e, h, i; Teachers)

Note: The first number indicates the number of teachers (N = 68) and the second number the percentage of teachers.

Statement	Not Stated	No Assistance	Some Assistance	Great Assistance
Principal (or vice principal) of your school	5 7.4	18 26.5	36 52.9	9 13.2
Amount of in-service made available to you	4 5.9	25 36.8	37 54.4	2 2.9
Other teachers in your school	2 2.9	20 29.4	33 48.5	13 19.1
Other teachers outside your school	3 4.4	26 38.2	32 47.1	7 10.3
Supervisory staff (superintendent or curricular associate)	4 5.9	49 72.1	13 19.1	2 2.9

assistance in outdoor education. Of the involved teachers, 66.1% found their principal or vice principal to be of assistance to them. The amount of in-services was found to be of some assistance by 57.3% of the involved teachers. Supervisory staff, who were generally not directly involved with teacher programs, were reported as being of assistance by 22% of the teachers.

One teacher commented about change agents' and opinion leaders' assistance. This teacher stated:

"There would be more experiences if there weren't so many administrative hassles."

Summary of Chapter IV

The Respondents

A description of the ninety-five teacher respondents indicated that all teaching divisions from kindergarten to grade XII were represented. As expected, most respondents taught one class more than 75% of their teaching time, but one or more teachers from each special area responded. Teachers with four and five years training made up 69.5% of the respondents, but teachers with from one to seven years training were represented. Regarding teaching experience, 61.1% of the respondents had ten or less years of experience and 6.3% had twenty-one or more years of experience. Slightly less than half of the respondents received their training for teaching elementary grades and about one-third for teaching secondary grades. Few teachers reported taking university courses, but almost half had attended in-services on outdoor education.

Of the 206 parent questionnaires received, almost half were completed by both parents and about one-third by the mothers. Of the parent respondents, 78.6% had children in grades IV to VII. Only 8.3% of the parents had children in kindergarten. Most parents reported that their children had been involved in outdoor education activities.

There were 211 grade IX and 101 grade XII student respondents. Slightly more girls than boys responded. Most respondents indicated past involvement in outdoor education. Of the 266 grade VI respondents, just over half were boys. Almost all grade VI respondents indicated past experience in outdoor education.

Data Related to Readiness

The perceived attributes of outdoor education were generally very favorable. In relation to "relative advantage" a large majority of the teachers felt that outdoor education made classroom learning more meaningful; but the largest group of teachers considered outdoor education of equal value to classroom learning in reference to the areas of learning mentioned. These teachers' "perceived compatibility" seemed to indicate that many teachers considered a larger amount of outdoor education than they presently offered to their students to be of good value. In relation to "perceived complexity", most teachers found it easier to identify objectives than to develop or carry out programs in outdoor education. Developing programs was found to be time consuming. "Perceived observability" of outdoor education was found by involved teachers to be about the same as other subjects. "Perceived trialability" was considered by most teachers to be very good.

The innovation-decision was most often made by the individual teacher. All of these teachers either planned to continue with outdoor education or were undecided. A large number of teachers were involved in collective decisions. Most teachers, but not all, planned to either continue their outdoor education involvement or were undecided. One teacher reported experience with an authority decision, which he/she did not make, and did not plan to continue with outdoor education.

The past communication channel considered to have been most effective was informal contact with a colleague. The three most desirable means of familiarization reported were: 1) observation of lessons demonstrating the implementation of outdoor education, 2) availability of model units, and 3) workshops and seminars operated by local personnel. Although not directly related as an indicator of readiness, this would be valuable information in implementing a program if readiness was indicated.

The nature of the social system appeared to be considerably more favorable than the teachers perceived it to be. A considerable amount of community assistance was reported by the teachers. Parents and students indicated that they generally placed a high value on outdoor education. Parents favored more extensive outdoor education programs in grades VI to IX. This parental choice corresponds favorably with the choice reported by the teachers. Parents suggested that students should receive almost twice as much outdoor education as the teachers believed the students should receive.

The amount of opinion leaders' and unofficial change agents' promotion efforts have been considerable when related to the fact that there was no official program in outdoor education.

It appeared that the value, willingness and ability aspects of readiness were quite favorably supported in the Rogers and Shoemaker change model. Although not all teachers, parents, or students indicated that they placed a high value on outdoor education, a large majority did. This value was indicated in the perceived attributes, nature of the social system, and decision variables of Rogers' and Shoemaker's change model. A majority of teachers showed the willingness to be involved in outdoor education. This willingness was indicated primarily in the perceived attributes and decision variables of the change model. Finally, although not all teachers indicated they had the ability to execute an outdoor education program, a large number did. These perceptions of teachers' abilities are shown in the "complexity" and "observability" attributes.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter of the study reviews the problem, research design and results of the study. Conclusions based on the results of the study are then presented along with recommendations regarding implementation of outdoor education and further research.

Summary

A. Purpose of the Study

With the growing awareness of the finiteness of the Earth and its resources, there is an increasing concern that humans become aware of the effects of their present and future actions on others. Stapp suggests the relationship of this concern to education. He states:

> "All recent authoritative studies on present day environmental problems conclude that there is no hope for finding viable solutions unless the content of general education at all levels is suitably modified so that from childhood, people, particularly in industrialized countries and in urbanized areas, grasp the fundamental interrelations between man and his environment." (1975, p. 6)

The purpose of this study was to survey the teachers, parents, and students of Whitehorse to obtain an indication of their readiness for more extensive outdoor education. The results of the study were expected to be valuable to teachers presently involved in outdoor education as well as to the department of education for consideration of feasible development and implementation of more extensive outdoor education programs.

B. Procedure of the Study

The Rogers and Shoemaker (1971) change model was used as the framework for acquiring an indication of this readiness. Their five variables determining the rate of adoption of innovations, namely 1) the "perceived attributes of the innovation"; 2) the "type of innovation-decision"; 3) the "communication channels"; 4) the "nature of the social system"; and 5) the "extent of change agents' and opinion leaders' promotion efforts" were used to explore the "readiness" of the teachers, parents, and students of Whitehorse for outdoor education. The other purpose of the study was to apply a change model in determining community "readiness".

As no suitable instruments were known to exist, questionnaire/opinionnaires primarily based on Likert (1957) type questions were designed and modified on the advice of consultants as well as small groups of teachers, parents, and students. Instruments for four groups of people were developed. The groups were 1) teachers, 2) parents, 3) grades IX and XII students, and 4) grade VI students.

The student sample was made up of 266 grade VI students, 211 grade IX students, and 101 grade XII students. The return was 100% for all students. Of the 172 teacher questionnaire/opinionnaires sent out, 95 (55.2%) were returned. And, of the 524 parent or guardian questionnaire/opinionnaires taken home by the student sample, 212 (40.5%) were returned.

The data was analyzed by tabulating or cross-tabulating the responses. For some questions, means were calculated. The results were reported in tabular form with raw scores and percentages or means. All tables were interpreted in the supporting text. Pertinent comments were reported in the text.

C. Characteristics of the Study Groups

Teachers

Of the 95 respondents, 68 (71.6%) reported involvement in outdoor education activities in the past four years. Of these (N = 68), 41 (60.3%) indicated participation in activities of over one-half day in length.

All levels, kindergarten to grade XII and all areas of teaching specialization were represented. Most teachers indicated four years of teacher training, but the range was from one to seven years. Elementary education was the largest group's education route. Ten or less years of experience was reported by 61.1% of the respondents. Only about 15% had taken university courses related to outdoor education, but almost 50% had attended in-services on outdoor education.

Parents and Guardians

Almost half the questionnaire/opinionnaires returned represented the opinions of both parents or guardians. About one-third represented the opinions of the female parents or female guardians. About three-quarters of the parents or guardians had children in grades IV to VII, but many parents or guardians represented children in several grade levels. Regarding children's involvement in outdoor education activities: 82% of the parents indicated that their children had been involved in "activities of less than one-half day in length", and 69.9% of the parents indicated that their children had been involved in "activities of one-half day or more in length".

Grades IX and XII Students

There were more than twice as many grade IX students as grade XII students in this sample. Slightly more than half of the students were girls. Almost 90% of all students in these two grades reported involvement in outdoor education activities of less than one-half day in length and 77.9% of the students reported involvement in activities of more than one-half day in length.

Grade VI Students

There were slightly more boys than girls in the grade VI sample. Approximately 93% reported involvement in outdoor education activities of one-half day or less in length and 83.8% reported involvement in activities of more than one-half day in length.

D. Results of the Study

1. Readiness

Readiness: For the purpose of this study, readiness is defined as seeing value in and having the willingness and ability to execute.

a. Seeing Value In

In reference to the first aspect of readiness - seeing value in - most teachers, parents, and students placed a high value on outdoor education (see Figure VI).

Teachers generally indicated that they saw value in spending approximately twice as much time on outdoor activities (Tables 22 and 24). The grades where "more extensive outdoor education programs were considered to be most valuable" were grades VI to IX (Table 21). More than 75% of the teachers felt that "outdoor education should be part of the curriculum at all grade levels" and that "students should have the opportunity to study directly the effects of human activities on the environment" (Tables 23 and 20). Approximately 70% of the teachers felt that "students should be offered the opportunity for outdoor recreation such as hiking, canoeing and survival skills" (Table 20). Approximately the same amount of teachers felt that "outdoor education could be related to more than two subjects in the present curriculum" (Table 20). Approximately 80% of the teachers felt that "outdoor education made classroom learning more meaningful", but only 30 to 40% felt that outdoor education activities were better than classroom activities for 1) "increasing the students' awareness and concern for the environment"; 2) "improving the students' understandings of others"; and 3) "growth in such areas as cooperativeness, judgements, and responsibility". However, only 15 to 25% of the teachers felt that these three areas of learning were better developed in the classroom (Table 19).

Teachers reported that administrators and other teachers supported and assisted in the workings of outdoor education activities. This support and assistance, and the fact that there are no official outdoor education programs, was an indication that the present outdoor education programs have been developed primarily through the efforts of individual teachers and/or principals (Table 42).

Another factor that probably affected the value that teachers placed on outdoor education was their perception of the value that parents placed on outdoor education. Although 43.2% of the teachers were neutral or had no opinion, 34.7% felt that parents placed a low value on outdoor education as compared to 20.0% a high value (Table 34). The parents, however, generally placed a high value on outdoor education (Table 35). Parental responses indicating "agreement" or "strong agreement" with positive statements related to outdoor education ranged from 46.1% on "providing better opportunities than the classroom for improving understandings of others" to 82.5% on "being part of the program of studies at all grade levels". The parental "disagreement" or "strong disagreement" with positive statements related to outdoor education ranged from 4.9% on "outdoor education making classroom learning more meaningful" to 16.0% on "outdoor education providing better opportunities than classroom activities for improving students' understandings of others" (Table 35). Both parents and teachers reported the belief that grades VI to IX would gain most from more extensive outdoor education programs. The parents, however, felt that twice as much time should be spent on outdoor education as teachers felt should be spent on outdoor education (Tables 22 and 37).

Students placed higher value on outdoor education and felt there should be more time spent on it than the teachers or parents thought there should be (Tables 22, 37, 38, 39, 40, 41). Although not expected, some students placed a very high value on outdoor education for kindergarten (Table 40).

The general community value seen in outdoor education was expressed through the support that the community gave to outdoor education programs. Approximately 70% of the teachers found other government agencies and parents to be of assistance in their programs. Although private enterprise was not often considered as a source of assistance, almost 30% of the teachers received assistance from private enterprise (Table 33).

b. Willingness to Execute

One major attribute determining willingness to become involved in an innovation is "trialability". Approximately 80% of the teachers "agreed" or "strongly agreed" that it was "relatively easy to try outdoor education without a binding commitment" (Table 27).

A variable that indicated a need for consideration in long range terms was the type of "innovation decision". It appeared that individual decisions were the type that were most often made and showed the best long range effect. The collective decision was the next most commonly used and had the next best long range effect. The authoritative decision was reported once and that person did not plan to continue involvement in outdoor education. Individual decisions show the most regard for "readiness", collective decisions the next most regard for "readiness" and the authority decision generally shows little or no regard for "readiness" (Table 30).

c. Ability to Execute

An indication of the ability of the teachers to execute outdoor education programs was revealed in their "perceived complexity" and "observability" of outdoor education. The largest group of teachers who had been involved in outdoor education activities reported outdoor education to have approximately the same "complexity" as classroom teaching. More of the involved teachers found "understanding the purpose of their involvement" relatively easy than found it difficult. However, more of these involved teachers found "developing and carrying out outdoor activities" difficult than found it easy. The most difficulty was found to be in developing activities (Table 25). In reference to "observability", the largest number of teachers involved in outdoor education generally found average difficulty in "describing to others the effects of outdoor education", but they found "discussing with colleagues the philosophies and strategies of outdoor education" to be relatively easy (Table 26). Although primarily related to "ability", these factors also reflected the "seeing value in" and "willingness" aspects of readiness.

2. Communication Channels

Although not a direct indicator of "readiness", the "communication channels" perceived to be most effective and desirable would be valuable in implementing a program if there was a positive indication of "readiness". The past "communication channels" found to be most effective to those teachers involved in outdoor education were "informal contact with a colleague" and "periodical articles". The three "communication channels" found to be most desirable were: 1) "observation of lessons demonstrating the implementation of outdoor education" - an opportunity presently available to teachers, 2) "availability of model units prepared specifically for the teacher's grade level", and 3) "workshops and seminars operated by local personnel".

Conclusions

The following conclusions seemed warranted from the results of this study. These conclusions, however, must be considered with due regard for those who did not respond to the questionnaire.

Although there was a 100% return on the student questionnaire, no accommodation was made for those students who were absent when the questionnaires were administered. Approximately 60% of the parents did not respond. This lack of response raises a number of questions. Was the sample self-selective? (Did only those parents strongly for or strongly against outdoor education respond?) Did the nature of the questionnaire encourage or discourage response? These conclusions are based on the unsupported assumption that those parents would have responded with a similar distribution to those parents who did respond.

Similar questions may be posed with regards to the teacher sample. Approximately 45% of the teachers did not respond to the questionnaire. Did those teachers not respond to the questionnaire because they were not interested in outdoor education? Did they not find time to respond to the questionnaire because mid-May is a busy time of year for teachers? The unsupported assumption was made that those teachers' distribution would be similar to the teachers who did respond.

A. The Readiness of the Teachers, Parents and Students of Whitehorse for More Extensive Outdoor Education

1. Seeing Value In

A large majority of teachers, parents, and students placed a generally high value on outdoor education (see Figure VI). The average amount of time recommended by the teachers to be spent on outdoor education was between ten and fifteen days per year (Table 22). The parents and students felt that approximately twice that amount of time could be valuably spent on outdoor education (Tables 37 and 40). Parents generally placed a considerably higher value on outdoor education than most teachers thought they did (Tables 34, 35, 36, 37). The grades where both teachers and parents thought most would be gained from more extensive outdoor education were grades VI to IX, but grades IX and XII students favored grades VI to XII. However, a large number of grades IX and XII students felt that kindergarten should receive a large amount of outdoor education. One of the students' comments appears to express their point:

> "If you start out-of-doors classes at early grades, when you get into higher grades you notice and learn more because you're used to the environment."

2. Willingness to Execute

The idea that outdoor education could be easily tried without a binding commitment was expressed by 84% of the teachers (Figure VI). Combining this "attribute" with their value seen in outdoor education, it appeared that a large number of teachers would be willing to try outdoor education. Approximately 75% of those teachers who had tried outdoor education planned to continue (Table 29). That the decision to be involved in outdoor education should be of either an individual or collective type seems very important when the long range effects are considered.

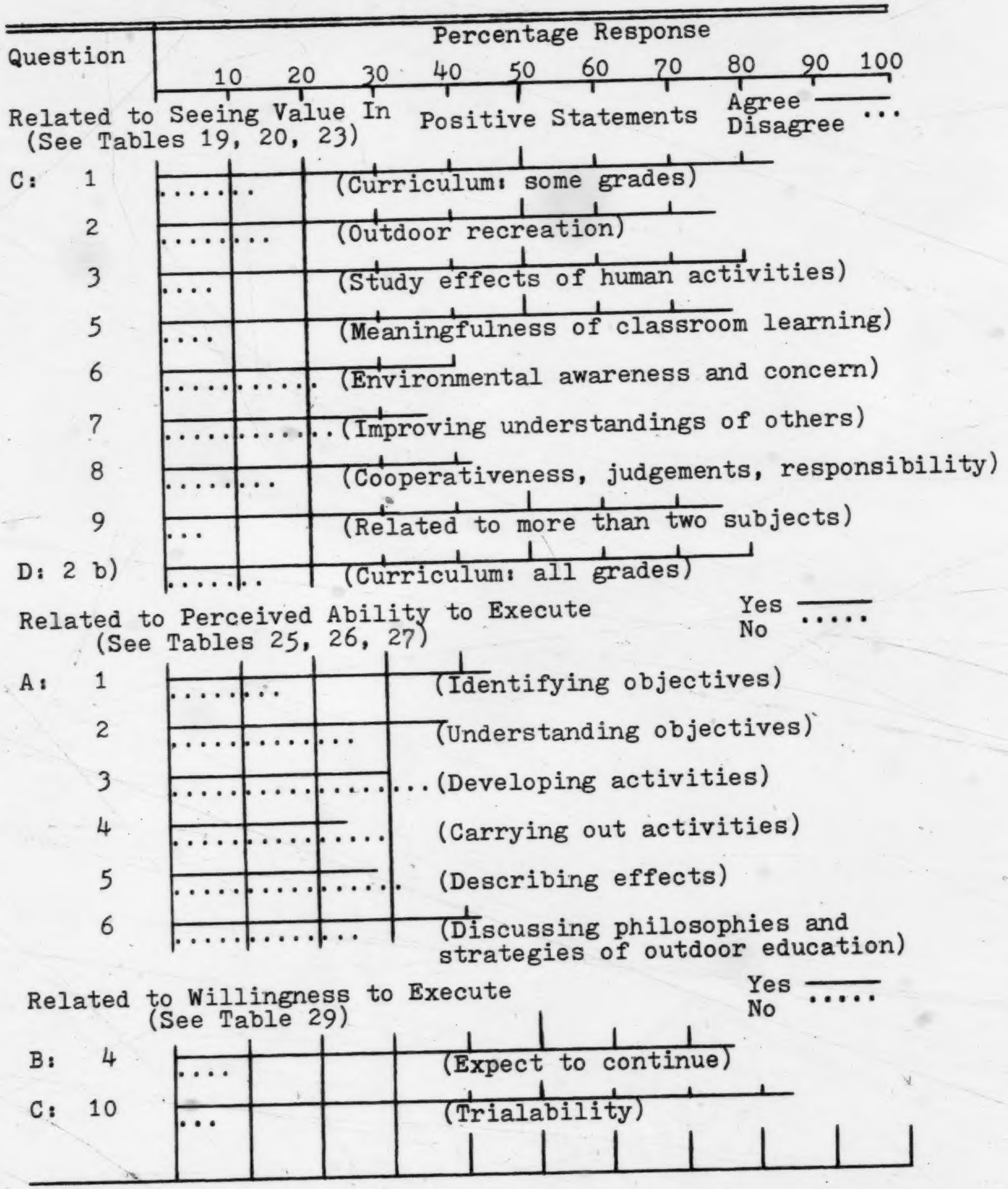
3. Ability to Execute

Although developing outdoor activities was found to be time consuming and of considerable difficulty by 33.9% of the "involved teachers", 36.8% of these teachers reported that outdoor education had approximately the same "complexity" as classroom teaching. However, 27.8% of the teachers found "carrying out outdoor education activities" to be difficult. A smaller number, approximately 22%, found "carrying out outdoor education activities" to be easy. This difficulty appears to be understandable as additional concerns, such as transportation and equipment, come into play with outdoor education. However, with outdoor education's high degree of "trialability", teachers who "place a high value on", and have a "willingness to try" outdoor education, should be able to gradually develop their

Figure VI

Percentage of Responses on Statements Related to Readiness for Outdoor Education

(See Appendix A - Teachers' Questionnaire)



competence and confidence in less extensive outdoor education. At present it appears that approximately 20% of the teachers have the ability to execute more extensive outdoor education programs.

Three teachers' comments seem appropriate here:

1) "A teacher has got to want to do such programs. Much depends on the teacher himself/herself."

2) "Experience in outdoor education is the best teacher."

3) "Some teachers would not be good at outdoor education and this should not necessarily be held against them."

In consideration of the three aspects of readiness - "seeing value in", and "having the willingness", and "having the ability to execute" - a majority of teachers appeared to be ready for less extensive outdoor education involvement such as partial day outings. Approximately 20% of the teachers appeared to be ready for more extensive outdoor education programs of one day or more in length. The parents and students reported that they placed a high value on outdoor education. In fact, the parents generally placed a considerably higher value on outdoor education than the teachers thought the parents did.

B. The Usefulness of a Change Model in Determining Community Readiness

In this study the Rogers and Shoemaker (1971) change model was found to be useful in determining the "readiness" of the community of Whitehorse for outdoor education.

The "variables determining the rate of adoption" generally correlated well with the three aspects of readiness. The "seeing value in" aspect of "readiness" appeared to be well covered in the "relative advantage" and "compatibility" attributes, and the "nature of the social system" variable of the Rogers and Shoemaker change model. The "willingness to execute" aspect of "readiness" was covered in the "trialability" attribute and "decision" variable of the Rogers and Shoemaker change model. Questions should have been more directed towards "willingness to execute" than the "trialability" attribute and "decision" variables of the Rogers and Shoemaker change model called for. This "willingness" aspect was found to be the weakest relationship between the change model and "readiness". The "complexity" and "observability" attributes of the change model appeared to have high correlation to the "ability to execute" aspect of "readiness". The variable "communication channels" did not correlate directly with determining "readiness" but gave very valuable information.

Recommendations

The main purpose of this study was to acquire an indication of the "readiness" for outdoor education of the teachers, parents, and students of Whitehorse. The study showed that the teachers, parents, and students generally placed a notably high value on outdoor education. Parents placed a considerably higher value on outdoor education than teachers thought they did. Most teachers indicated that they were "ready" for short outdoor education activities and approximately 20% of the teachers indicated that they were "ready" for outdoor education activities of one or more days in length.

Effective outdoor education requires a considerable amount of time, effort and dedication on the part of the teacher. The following recommendations are made in the presumption that, if they are acted upon, education can be made more meaningful to the students of Whitehorse.

A. Recommendations for the Department of Education

1. Continue to provide substitutes to allow teachers to "observe lessons demonstrating the implementation of outdoor education" as this was one of the three most "desirable means of familiarization" expressed by the teachers.
2. Initiate and coordinate the "development of model units" by teachers who have had past experience in more extensive outdoor education programs, through freeing them from their teaching duties as this was another of the three most "desirable means of familiarization". (If this has already been initiated, provide the support for it.)
3. Continue to support "workshops and seminars on outdoor education", which was the third most "desirable means of familiarization".
4. As not all students have had an opportunity to become involved in more extensive outdoor education, begin work on curriculum development and implementation of more extensive outdoor education programs in grades VI

and VII, with the possibility of future expansion or modification. It appears that there are presently sufficient teachers "ready" to handle the program, there would be few timetable problems at the grades VI and VII levels, and those grades are considered by teachers, parents, and students to be among the grades where extensive outdoor education would be most beneficial.

B. Recommendations for the Yukon Teachers' Association

1. Continue to allocate substitutes to allow teachers to "observe lessons demonstrating the implementation of outdoor education", as this was a most "desirable means of familiarization" expressed by the teachers.

2. Continue to allow funds for "workshops and seminars on outdoor education", as this was another most "desirable means of familiarization".

3. Through the Professional Development Report, announce school planned outdoor education activities so other interested teachers can arrange to "observe lessons demonstrating the implementation of outdoor education".

C. Recommendations for Schools (Principals and/or teachers)

1. Principals and/or teachers, who are ready for outdoor education, take the initiative for outdoor education in the school and assist other teachers, who appear ready, to become involved in outdoor education. Preparing programs was considered to be the most difficult aspect of outdoor education.

2. Encourage teachers on staff to go to other schools for

"observation of outdoor education lessons", as this was considered to be a most "desirable means of familiarization".

3. Encourage teachers from other schools to come to your school for "observation of outdoor education lessons".
4. Report plans of extensive outdoor education programs to the Professional Development Committee so announcements can be made in the Professional Development Report to enable teachers to arrange for "observation of outdoor education lessons".
5. Although outdoor education was considered to be valuable, care should be taken not to overdo it.

D. Recommendations for Further Research

1. An investigation of the Whitehorse area and present laws to see if land in its natural state and near schools can be set aside in perpetuity before the land becomes too monetarily valuable. This recommendation is based on the expressed value placed on outdoor education.
2. An evaluation of the effect of outdoor education programs on the academic and personal development of students to see if the expressed value placed on outdoor education by teachers, parents, and students is merited.

Concluding Statement

Outdoor education appears to be highly valued by most teachers, parents, and students of Whitehorse. At the time of this study, 71% of the teachers had been involved in outdoor education to varying degrees in the past four years. The study indicated that more extensive outdoor education programs should be developed and implemented, but that caution should be taken not to carry programs or expectations too far. The study indicated that "readiness" levels of teachers vary. Approximately 20% of the teachers appeared to be "ready" for more extensive outdoor education programs, and a majority of teachers appeared to be "ready" for less extensive outdoor education activities.

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APPENDIX A

COPIES OF THE TESTING INSTRUMENTS

OUTDOOR EDUCATION OPINIONNAIRE FOR TEACHERS OF WHITEHORSE

INTRODUCTION

This survey is designed to obtain your opinion on outdoor education, your degree of involvement with outdoor education and your background in outdoor education activities. Please indicate your real feelings and ANSWER ALL QUESTIONS PERTAINING TO YOU. Feel free to comment on any section. The opinionnaire will take about 20 minutes of your time.

Outdoor Education: For the purpose of this study outdoor education is defined as any part of a school program outside the school building excluding regular physical education classes. (Consider orienteering as outdoor education.) Outdoor activities could include short nature walks, studies in or near the school yard, week-long canoe trips, trips to places like fire halls, bakeries, mines, territorial council or museums.

INSTRUCTIONS FOR PARTICIPATING IN THE RESEARCH

Please read the following very carefully:

1. If you have not been involved with outdoor education activities in the last four years and don't expect to be involved this year, please answer only sections C - F.
2. If you have been involved with outdoor education activities in the last four years or expect to be involved this year, please answer the entire opinionnaire.
3. If you have any questions regarding the opinionnaire, please call Martyn Williams at 7-2674 or 8-5918.

SECTION A - DIFFICULTY

KEY TO RESPONSES:

1 = Extremely difficult
2 = Relatively difficult
3 = Average difficulty
4 = Relatively easy
5 = Extremely easy

Some aspects of programs are easy to understand and put into practice, while others are difficult. Please respond to the following statements by circling the number corresponding to the degree of ease you have with outdoor education activities.

	Extremely difficult 1	Relatively difficult 2	Average difficulty 3	Relatively easy 4	Extremely easy 5	Office use only 12345
1. Identifying the objectives of outdoor education is ...	1	2	3	4	5	6
2. Understanding what is expected of you as a teacher of outdoor education is ...	1	2	3	4	5	7
3. Developing activities in outdoor education is	1	2	3	4	5	8
4. Carrying out activities in outdoor education is ...	1	2	3	4	5	9
5. Describing to others the effects of outdoor education activities on the students is ...	1	2	3	4	5	10
6. Discussing with colleagues the philosophies and strategies of outdoor education activities is ...	1	2	3	4	5	11

Comments: ______________________________

____

____

SECTION B - INFLUENCING FACTORS

KEY TO RESPONSES:
1 = No experience with
2 = No influence
3 = Small influence
4 = Large influence

In this section the emphasis is on the factors that influenced your perceived value of outdoor education.

1. Indicate the degree of influence each of the following factors had on your awareness of the value of outdoor education activities.

	No experience with 1	No influence 2	Small influence 3	Large influence 4	
a) Periodical articles about outdoor education	1	2	3	4	12
b) Books about outdoor education	1	2	3	4	13
c) Teaching guides or manuals on outdoor education	1	2	3	4	14
d) University courses on outdoor education (Please specify if possible) ______________________________	1	2	3	4	15

____

	No experience with 1	No influence 2	Small influence 3	Large influence 4	Office use only
e) Teacher workshops or professional development courses in outdoor education (Please specify if possible) ______________________	1	2	3	4	16
f) Non-credit, "special interest" courses which relate to outdoor learning (i.e. hunter training, nature photography, taxidermy, canoeing, etc.) Please specify ______________________	1	2	3	4	17
g) Membership or involvement with any clubs or organizations with strong interest in the out-of-doors. (Consider your youth also.) Please specify ______________________	1	2	3	4	18
h) Informal contact with a colleague (Please specify if possible) ______________________	1	2	3	4	19
i) Discussion with an educational consultant (Please specify if possible) ______________________	1	2	3	4	20

2. KEY TO RESPONSES: 2 = No assistance and/or encouragement
3 = Some " " " "
4 = Great " " " "

Indicate the degree of assistance and/or encouragement *each* of the following gave you in implementing your outdoor education activities

	No assistance 2	Some assistance 3	Great assistance 4	Office use only
a) Principal (or vice principal) of your school	2	3	4	21
b) Parents of your students	2	3	4	22
c) Teaching guides or manuals on outdoor education	2	3	4	23
d) University course(s) (Please specify) ______________________	2	3	4	24
e) Amount of inservice made available to you	2	3	4	25
f) Government agencies (e.g. fisheries, forestry, etc.) (Please specify) ______________________	2	3	4	26

	No assistance 2	Some assistance 3	Great assistance 4	Office use only
g) Private enterprise (Please specify) ________	2	3	4	27
h) (i) Other teachers in your school	2	3	4	28
(ii) Other teachers outside your school	2	3	4	29
i) Supervisory staff (superintendent or curricular associate)	2	3	4	30

3. a) The decision to become involved in outdoor education activities was made: (circle) 31
   1. by myself (optional)
   2. in consensus with others (collective)
   3. by the principal, superintendent or consultant (authority)

   b) Have you been involved in outdoor education activities of more than ½ day in length? 32

   1. Yes 2. No

   c) Approximately how many days (1 day [illegible] 5 hours) will you spend on outdoor education activities during this school year? 33 34

   ____

4. After your experiences with outdoor education, do you expect to continue with outdoor education activities? (Circle) 35

   1. Yes 2. Undecided 3. No

Comments: ____

____

____

SECTION C - VALUES OF OUTDOOR EDUCATION

KEY TO RESPONSES:
1 = Strongly disagree
2 = Disagree
3 = Neutral or no opinion
4 = Agree
5 = Strongly agree

In this section, the emphasis is on your opinions about school involvement in outdoor education. Please circle the number indicating your level of agreement with each statement.

	Strongly disagree 1	Disagree 2	Neutral or no opinion 3	Agree 4	Strongly agree 5	Office use only
1. Outdoor education should be part of the curriculum at some or all grade levels	1	2	3	4	5	36
2. Schools should offer opportunities for students to experience outdoor recreation such as hiking, canoeing and taking care of themselves in the outdoors	1	2	3	4	5	37
3. Students should have the opportunity to study directly the effects of human activities like road construction, pipeline construction or mining on the environment. They will then be better able to make reasonable judgements on environmental issues (i.e. balancing good and bad effects of present methods of development)	1	2	3	4	5	38
4. I believe that parents place a high value on outdoor education activities for the students I teach	1	2	3	4	5	39
5. Outdoor education activities make classroom learning more meaningful	1	2	3	4	5	40
NOTE: For the next three questions only, circle (3) if you find outdoor activities and classroom activities of equal value.						
6. Outdoor activities are better than classroom activities for increasing students' awareness and concern for the environment	1	2	3	4	5	41
7. Outdoor activities provide better opportunities than classroom activities for improving students' understandings of others	1	2	3	4	5	42
8. Outdoor activities provide better opportunities than classroom activities for growth in such areas as cooperativeness, judgements and responsibility	1	2	3	4	5	43
9. Outdoor activities can be related to more than two subjects in the present curriculum	1	2	3	4	5	44
10. Outdoor education activities can be implemented a little at a time; it is not a matter of "all or nothing"	1	2	3	4	5	45

Comments: ______________________________

____

____

Office use only

SECTION D - AMOUNT OF OUTDOOR EDUCATION ACTIVITIES

1. If outdoor education is considered to be valuable and there are sufficient teachers ready to carry out a more extensive program in four grades only, state the four grades in which you feel the most benefit would be gained from outdoor education activities (K - 12)

( ) 46 47

( ) 48 49

( ) 50 51

( ) 52 53

2.a) If it is possible to have outdoor education activities in each grade, write the total number of school days (time equivalent, not necessarily full school days) you think should be spent on outdoor education activities (as defined on page 1) for each of the following grades during the school year. (If the school is organized on the semester system, consider the total school year.)

Grade	Number of School Days to be Spent Outdoors	Office use only
Kindergarten	____	54 55
Grade III	____	56 57
Grade VI	____	58 59
Grade IX	____	60 61
Grade XII	____	62 63

b) Do you believe that outdoor education activities (as defined on page 1) should be part of the program of studies at all grade levels? (Circle) 1. yes 2. no 64

Comments: ____

____

SECTION E - TEACHER FAMILIARIZATION

Following is a list of eight attractive means of becoming familiar with a program of studies, plus a space for "other". Place check marks (✓) beside the three (3) which you feel would best assist teachers to implement outdoor education activities if they were available:

___ 1. Membership on an active unit planning committee

___ 2. Workshops and seminars operated by visiting personnel (e.g. from a University or a provincial department of education) 65

___ 3. Workshops and seminars operated by local personnel

___ 4. Conferences on outdoor education with expert speakers, etc. 66

___ 5. University courses in outdoor education 67

___ 6. Availability of current books and journals on outdoor education

___ 7. Observation of lessons demonstrating the implementation of outdoor education

___ 8. Availability of model units prepared specifically for your grade level

___ 9. Other ____

Office use only

Comments: ____

____

____

SECTION F - PERSONAL DATA

1. a) Students you are presently teaching. (Circle "yes" or "no" for **each** division.)

Kindergarten	1. yes	2. no	68
Grades I - III	1. yes	2. no	69
Grades IV - VII	1. yes	2. no	70
Grades VIII - IX	1. yes	2. no	71
Grades X - XII	1. yes	2. no	72

b) If you teach one class of students for more than 75% of your teaching time, circle "1) general". If you teach one class of students less than 75% of the time, circle the subject you spend most scheduled time teaching.

1) General
2) Art
3) Commercial
4) Guidance
5) Foreign Language
6) Home Economics
7) Industrial Arts
8) Kindergarten — 73 74
9) Language Arts
[✓ 10) Mathematics]
11) Music
12) Physical Education
13) Science
14) Social Studies
15) Special Education
16) Other (Please specify) ____________________

2. a) Years of teacher training (Circle) 1 2 3 4 5 6 7 — 75

b) Years of teaching experience as of September 1976 (Circle)

1) 5 or less
2) 6 - 10
3) 11 - 15 — 76
4) 16 - 20
5) 21 or more

3. Circle your teacher education route:

1) Pre-school
2) Elementary — 77
[✓ 3) Secondary]
4) Other (Please specify)

____

	Office use only
4. a) Have you taken university courses related to outdoor education? 1. yes 2. no	78
b) Have you attended in-services on outdoor education? 1. yes 2. no	79

Comments: ______________________

____

____

The results of this survey will be reported to you. A copy of the study will be sent to the Yukon Regional Library.

Thank you very much for your help with this study.

D. Brekke

OUTDOOR EDUCATION OPINIONNAIRE FOR PARENTS AND/OR GUARDIANS OF SCHOOL STUDENTS OF WHITEHORSE

INTRODUCTION

This opinionnaire is designed to obtain your opinions on outdoor education as well as your children's involvement in outdoor education activities. Please indicate your real feelings and answer all questions. Feel free to comment on any section in the space provided.

Outdoor education: For the purpose of this study outdoor education means "teaching any part of the school program outside the school building, excluding regular physical education classes". Outdoor activities could include short nature walks, studies in or near the school yard, week-long canoe trips, trips to places like fire halls, bakeries, mines, territorial council or museums.

NOTE:
1) The opinionnaire can be answered together with your spouse if your opinions are the same, or singly if your opinions are different.
2) If possible, please return the opinionnaire to the school with your son or daughter within two school days.
3) This opinionnaire will take about 15 minutes of your time.

	Office use only
SECTION A - PERSONAL DATA	12345
1. Please circle ("yes" or "no") depending on whether or not you have child(ren) in each division (5 circles).	
Kindergarten 1. yes 2. no	6
Grades I - II 1. yes 2. no	7
Grades IV - VII 1. yes 2. no	8
Grades VIII - IX 1. yes 2. no	9
Grades X - XII 1. yes 2. no	10
2. a) Has/have your child(ren) been involved in outdoor education activities that were less than ½ day in length? (Circle) 1. yes 2. no	11
b) Has/have your child(ren) been involved in outdoor education activities of ½ day or more in length? (Circle) 1. yes 2. no	12

SECTION B - VALUES OF OUTDOOR EDUCATION

Circle the number that shows how much you agree or disagree with each statement.	Strongly disagree 1	Disagree 2	Neutral or no opinion 3	Agree 4	Strongly agree 5	
1. Outdoor education should be part of the program of studies at some grade levels	1	2	3	4	5	13
2. Outdoor education should be part of the program of studies at all grade levels	1	2	3	4	5	14

	Strongly disagree 1	Disagree 2	Neutral or no opinion 3	Agree 4	Strongly agree 5	Office use only
3. Schools should offer opportunities for students to experience outdoor recreation such as hiking, canoeing and taking care of themselves in the outdoors during regular school hours	1	2	3	4	5	15
4. Students should have the opportunity to study directly the effects of human activities like road construction, pipeline construction or mining on the environment so they can make reasonable judgements on environmental issues (i.e. balancing good and bad effects of present methods of development)	1	2	3	4	5	16
5. Outdoor activities make classroom learning more meaningful	1	2	3	4	5	17
NOTE: Whether or not you or your children have been involved in outdoor education activities, please answer these items as outlined, based on the definition on page 1. For the next three questions only, circle (3) if you find outdoor activities and classroom activities of equal value.						
In general:						
6. outdoor activities are better than classroom activities for increasing students' awareness and concern for the environment	1	2	3	4	5	18
7. outdoor activities provide better opportunities than classroom activities for improving students' understandings of others	1	2	3	4	5	19
8. outdoor activities provide better opportunities than classroom activities for growth in such areas as cooperativeness, judgements and responsibility	1	2	3	4	5	20
9. I believe that outdoor activities can be used in more than two subjects in the present school program	1	2	3	4	5	21

Comments: ______________________________

____

____

SECTION C - AMOUNT OF OUTDOOR EDUCATION ACTIVITIES

1. If outdoor education is considered to be valuable and there are sufficient teachers ready to carry out a more extensive program in four grades only, state the four grades in which you feel the most benefit would be gained from outdoor education activities (Kindergarten to Grade 12).

( ) 22 23

( ) 24 25

( ) 26 27

( ) 28 29

Office use only

2. If it is possible to have outdoor education activities in each grade, write the total number of school days (time equivalent, not necessarily full days) you think should be spent on outdoor education activities for each of the following grades during the school year. (For students on the semester system, consider the time to be spent on outdoor education based on a full school year.)

There are approximately 190 school days in the school year.

Grade	Number of School Days to be Spent Outdoors	Office use only
Kindergarten	____	30 31
Grade III	____	32 33
Grade VI	____	34 35
Grade IX	____	36 37
Grade XII	____	38 39

Comments: ____

____

____

FINAL QUESTION

This questionnaire represents the opinions of the following parent(s) and/or guardian(s)

1. Male 2. Female 3. Both — 40

The results of this survey will be reported to you. A copy of the study will be sent to the Yukon Regional Library.

Thank you very much for your help with this study.

D. Brekke

OUTDOOR EDUCATION OPINIONNAIRE FOR
GRADES 9 AND 12 STUDENTS OF WHITEHORSE

INTRODUCTION

This opinionnaire is designed to obtain your opinions on outdoor education. Your involvement in outdoor education activities will also be determined. Please indicate your real feelings and answer all appropriate questions. Feel free to write in your comments for any section in the space provided.

Outdoor education: Outdoor education means "teaching any part of the school program outside the school building, excluding regular physical education classes". (Consider orienteering as outdoor education.) Outdoor activities could include short nature walks, studies in or near the school yard, week-long canoe trips, trips to places like fire halls, bakeries, mines, territorial council, or museums.

SECTION A - PERSONAL DATA

Office use only
12345

1. Please circle the grade you are in
   Grade 9 12 — 6

2. a) Have you been involved in outdoor education activities of less than ½ day in length? (Circle)
   1. Yes 2. No — 7

   b) Have you been involved in outdoor education activities of more than ½ day in length? (Circle)
   1. Yes 2. No — 8

   c) In your last school year, how many days did you spend on outdoor education activities? ____ — 9

3. Please circle your sex:
   1. Male 2. Female — 10

SECTION B - VALUES OF OUTDOOR EDUCATION

Circle the number that shows how much you agree or disagree with each statement.

	Strongly disagree 1	Disagree 2	Neutral or no opinion 3	Agree 4	Strongly agree 5	Office use only
1. Outdoor education should be part of the program of studies at some grade levels	1	2	3	4	5	11
2. Outdoor education should be part of the program of studies at all grade levels	1	2	3	4	5	12
3. Schools should offer opportunities for students to experience outdoor recreation such as hiking, canoeing and taking care of themselves in the outdoors during regular school hours	1	2	3	4	5	13
4. Students should have the opportunity to study directly the effects of human activities like road construction, pipeline construction or mining on the environment. They will then be better able to make reasonable judgements on environmental issues (i.e. balancing good and bad effects of present methods of development)	1	2	3	4	5	14

	Strongly disagree 1	Disagree 2	Neutral or no opinion 3	Agree 4	Strongly agree 5	Office use only
5. Outdoor activities make classroom learning more meaningful	1	2	3	4	5	15
NOTE: Whether or not you have been involved in outdoor education activities, answer these items as outlined below, based on the definition on page 1. For the next three questions only, circle (3) if you consider outdoor activities and classroom activities of equal value.						
In general:						
6. outdoor activities are better than classroom activities for increasing students' awareness and concern for the environment	1	2	3	4	5	16
7. outdoor activities provide better opportunities than classroom activities for improving students' understandings of others	1	2	3	4	5	17
8. outdoor activities provide better opportunities than classroom activities for growth in such areas as cooperativeness, judgements and responsibility	1	2	3	4	5	18
9. I believe that outdoor activities can be used in more than two subjects in school	1	2	3	4	5	19

Comments: ____

____

____

SECTION C - AMOUNT OF OUTDOOR EDUCATION ACTIVITIES

1. If outdoor education is considered to be valuable and there are sufficient teachers ready to carry out a more extensive program in four grades only, state the four grades in which you feel the most benefit would be gained from outdoor education activities. (Note below before answering.)

Grade 9 - Choose from Kindergarten to Grade 9	( )	20 21
Grade 12 - Choose from Kindergarten to Grade 12	( )	22 23
	( )	24 25
	( )	26 27

2. If it is possible to have outdoor education activities in each grade, write the total number of school days (time equivalent, not necessarily full days) you think should be spent on outdoor education activities for each of the following grades during the school year. (If the school is organized on the semester system, consider the total school year.)

There are approximately 190 school days in the school year.

Grade	Number of School Days to be Spent Outdoors	
Kindergarten	____	28 29
Grade III	____	30 31
Grade VI	____	32 33
Grade IX	____	34 35
Grade XII (to be answered by Grade 12 students only)	____	36 37

Comments: ______________________________

____

____

The results of this survey will be reported to you. A copy of the study will be sent to the Yukon Regional Library.

Thank you very much for your help with this study.

D. Brekke

YOUR FEELINGS ABOUT OUTDOOR EDUCATION (Grade 6)

Please tell us how you feel about outdoor education. There are no right or wrong answers.

Outdoor education activities could include orienteering, short nature walks, studies in or near the school yard, week-long excursions , and trips to places like fire halls, bakeries, mines, territorial council or museums.

Office use only

SECTION A - ABOUT MYSELF

1. a) Have you been involved in outdoor education activities of ½ day or less in length? (Circle) 12345

1. Yes 2. No 6

b) Have you been involved in outdoor education activities of more than ½ day in length? (Circle)

1. Yes 2. No 7

c) In Grade V, how many days (1 day ≈ 5 hours) did you spend on outdoor activities? ______ 8 9

2. I am a: (Circle) 1. Boy 2. Girl 10

SECTION B - VALUES OF OUTDOOR EDUCATION

What's your opinion? Circle the number that shows how much you agree or disagree with each statement.

	STRONGLY DISAGREE 1	DISAGREE 2	NEUTRAL OR NO OPINION 3	AGREE 4	STRONGLY AGREE 5	
1. I think we should sometimes go outside for several subjects (e.g. science experiments, poem writing, nature art)	1	2	3	4	5	11
2. Most grades should have some outdoor activities	1	2	3	4	5	12
3. Grades K - 6 should all have some outdoor activities	1	2	3	4	5	13
4. Schools should help teach us outdoor skills like hiking, canoeing and taking care of ourselves in the outdoors	1	2	3	4	5	14
5. Some changes that man makes to the out-of-doors are good and some changes are bad. We should go outside to see these changes and decide for ourselves their good points and bad points	1	2	3	4	5	15
6. Using classroom learning combined with seeing real things is better than classroom learning by itself	1	2	3	4	5	16
7. Outdoor education activities are better than classroom activities for learning to better understand other students and teachers	1	2	3	4	5	17
8. Outdoor education activities give more chances to learn responsibility and cooperativeness than classroom activities	1	2	3	4	5	18

Comments: ____________________________________

The results of this study will be reported to you. A copy of the study will be sent to the Yukon Regional Library.

Thank you very much for your help with this study.

D. Brekke

APPENDIX B

QUESTIONNAIRE/OPINIONNAIRE RESULTS

OUTDOOR EDUCATION OPINIONNAIRE FOR TEACHERS OF WHITEHORSE

INTRODUCTION

This survey is designed to obtain your opinion on outdoor education, your degree of involvement with outdoor education and your background in outdoor education activities. Please indicate your real feelings and ANSWER ALL QUESTIONS PERTAINING TO YOU. Feel free to comment on any section. The opinionnaire will take about 20 minutes of your time.

Outdoor Education: For the purpose of this study outdoor education is defined as any part of a school program outside the school building excluding regular physical education classes. (Consider orienteering as outdoor education.) Outdoor activities could include short nature walks, studies in or near the school yard, week-long canoe trips, trips to places like fire halls, bakeries, mines, territorial council or museums.

INSTRUCTIONS FOR PARTICIPATING IN THE RESEARCH

Please read the following very carefully:

1. If you have not been involved with outdoor education activities in the last four years and don't expect to be involved this year, please answer only sections C - F.
2. If you have been involved with outdoor education activities in the last four years or expect to be involved this year, please answer the entire opinionnaire.
3. If you have any questions regarding the opinionnaire, please call Martyn Williams at 7-2674 or 8-5918.

SECTION A - DIFFICULTY

KEY TO RESPONSES:
1 = Extremely difficult
2 = Relatively difficult
3 = Average difficulty
4 = Relatively easy
5 = Extremely easy

Some aspects of programs are easy to understand and put into practice, while others are difficult. Please respond to the following statements by circling the number corresponding to the degree of ease you have with outdoor education activities.

NOTE: Either the percentage of responses or the means and standard deviations are indicated for each question. "No Response" accounts for the amount short of 100% for each question.

	Extremely difficult 1	Relatively difficult 2	Average difficulty	Relatively easy	Extremely easy 5
1. Identifying the objectives of outdoor education is ...	4.4	10.3	44.1	35.3	5.9
2. Understanding what is expected of you as a teacher of outdoor education is ...	4.4	19.1	36.8	33.8	4.4
3. Developing activities in outdoor education is ...	1.5	32.4	36.8	25.0	4.4
4. Carrying out activities in outdoor education is ...	4.4	23.5	48.5	17.6	4.4
5. Describing to others the effects of outdoor education activities on the students is ...	2.9	26.5	41.2	23.5	4.4
6. Discussing with colleagues the philosophies and strategies of outdoor education activities is ...	7.4	14.7	30.9	35.3	5.9

Comments: ______________________

____

____

SECTION B - INFLUENCING FACTORS

KEY TO RESPONSES:
1 - No experience with
2 - No influence
3 - Small influence
4 - Large influence

In this section the emphasis is on the factors that influenced your perceived value of outdoor education.

1. Indicate the degree of influence *each* of the following factors had on your awareness of the value of outdoor education activities.

	No Experience With 1	No Influence 2	Small Influence 3	Large Influence 4
a) Periodical articles about outdoor education	16.2	11.8	52.9	19.1
b) Books about outdoor education	17.6	11.8	54.4	14.7
c) Teaching guides or manuals on outdoor education	29.4	13.2	42.6	14.7
d) University courses on outdoor education (Please specify if possible)	69.1	5.9	4.4	17.6

____

____

	No Experience With 1	No Influence 2	Small Influence 3	Large Influence 4
e) Teacher workshops or proffessional development courses in outdoor education (Pleas specify if possible) ____________ ____________	41.2	5.9	39.7	13.2
f) Non-credit, "special interest" courses which relate to outdoor learning (i.e. hunter training, nature photography, taxidermy, canoeing, etc.) Please specify ____________ ____________	55.9	7.4	25.0	32.4
g) Membership or involvement with any clubs or organizations with strong interest in the out-of-doors. (Consider your youth also.) Please specify ____________ ____________	33.8	7.4	25.0	32.4
h) Informal contact with a colleague (Please specify if possible) ____________ ____________	14.7	7.4	48.5	29.4
i) Discussion with an educational consultant (Please specify if possible) ____________ ____________	70.6	10.3	8.8	7.4

2. KEY TO RESPONSES:

2 = No assistance and/or encouragement
3 = Some " " " "
4 = Great " " " "

Indicate the degree of assistance and/or encouragement each of the following gave you in implementing your outdoor education activities

	No Assistance 2	Some Assistance 3	Great Assistance 4
a) Principal (or vice principal) of your school	26.5	52.9	13.2
b) Parents of your students	25.0	60.3	8.8
c) Teaching guides or manuals on outdoor education	38.2	48.5	8.8
d) University course(s) (Please specify) ____________ ____________	64.7	13.2	10.3
e) Amount of inservice made available to you	36.8	54.4	2.9
f) Government agencies (e.g. fisheries, forestry, etc.) Please specify) ____________ ____________	25.0	52.9	20.6

	No Assistance 2	Some Assistance 3	Great Assistance 4
g) Private enterprise (Please specify) ______________________________	58.8	23.5	5.9
h) (i) Other teachers in your school	29.4	48.5	19.1
(ii) Other teachers outside you school	38.2	47.1	10.3
i) Supervisory staff (superintendent or curricular associate)	72.1	19.1	2.9

3. a) The decision to become involved in outdoor education activities was made: (Circle)

1	by myself (optional)	55.9
2	in consensus with others (collective)	32.4
3	by the principal, superintendent or consultant (authority)	1.5

b) Have you been involved in outdoor education activities of more that ½ day in length?

Yes: 60.3 No: 33.8

c) Approximately how many days (1 day 5 hours) will you spend on outdoor education activities during this school year?

Mean 7.16 S.D 8.388

4. After your experiences with outdoor education, do you expect to continue with outdoor education activities? (Circle)

Yes: 73.5 No: 7.4 Undecided: 14.7

Comments: ____

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SECTION C - VALUES OF OUTDOOR EDUCATION

KEY TO RESPONSES:
1 = Strongly disagree
2 = Disagree
3 = Neutral or no opinion
4 = Agree
5 = Strongly agree

In this section, the emphasis is on your opinions about school involvement in outdoor education. Please circle the number indicating your level of agreement with each statement.

	Strongly disagree 1	Disagree 2	Neutral or no opinion 3	Agree 4	Strongly agree 5
1. Outdoor education should be part of the curriculum at some or all grade levels	3.2	6.3	5.3	49.5	34.7
2. Schools should offer opportunities for students to experience outdoor recreation such as hiking, canoeing and taking care of themselves in the outdoors	3.2	9.5	11.6	36.8	36.8
3. Students should have the opportunity to study directly the effects of human activities like road construction, pipeline construction or mining on the environment. They will then be better able to make reasonable judgements on environmental issues (i.e. balancing good and bad effects of present methods of development)	2.1	5.3	11.6	51.6	29.5
4. I believe that parents place a high value on outdoor education activities for the students I teach	6.3	26.4	43.2	14.7	5.3
5. Outdoor education activities make classroom learning more meaningful	2.1	5.3	11.6	51.6	27.4

NOTE: For the next three questions only, circle (3) if you find outdoor activities and classroom activities of equal value.

	Strongly disagree 1	Disagree 2	Neutral or no opinion 3	Agree 4	Strongly agree 5
6. Outdoor activities are better than classroom activities for increasing students' awareness and concern for the environment	3.2	17.9	33.7	27.4	12.6
7. Outdoor activities provide better opportunities than classroom activities for improving students' understandings of others	2.1	20.0	37.9	26.3	8.4
8. Outdoor activities provide better opportunities than classroom activities for growth in such areas as cooperativeness, judgements and responsibility	2.1	14.7	36.8	32.6	8.4
9. Outdoor activities can be related to more than two subjects in the present curriculum	2.1	4.2	13.7	53.7	21.1
10. Outdoor education activities can be implemented a little at a time; it is not a matter of "all or nothing"	2.1	4.2	6.3	61.1	23.2

Comments: ________________________________

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SECTION D - AMOUNT OF OUTDOOR EDUCATION ACTIVITIES

1. If outdoor education is considered to be valuable and there are sufficient teachers ready to carry out a more extensive program in four grades only, state the four grades in which you feel the most benefit would be gained from outdoor education activities (K - 12)

K	1	2	3	4	5
13.7	14.7	9.5	10.5	28.4	29.5

6	7	8	9	10	11	12
46.3	52.6	38.9	40.0	29.5	13.7	15.8

2.a) If it is possible to have outdoor education activities in each grade, write the total number of school days (time equivalent, not necessarily full school days) you think should be spent on outdoor education activities (as defined on page 1) for each of the following grades during the school year. (If the school is organized on the semester system, consider the total school year.)

Grade		Number of School Days to be Spent Outdoors	
Kindergarten	Mean	7.16	146.9 (S.D.)
Grade III		10.866	169.3 (S.D.)
Grade VI		11.324	171.3 (S.D.)
Grade IX		12.347	272.3 (S.D.)
Grade XII		13.123	151.0 (S.D.)

b) Do you believe that outdoor education activities (as defined on page 1) should be part of the program of studies at all grade levels? (Circle) 1. yes 2. no

75.8 10.5

Comments: ______________________________

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SECTION E - TEACHER FAMILIARIZATION

Following is a list of eight attractive means of becoming familiar with a program of studies, plus a space for "other". Place check marks (✓) beside the three (3) which you feel would best assist teachers to implement outdoor education activities if they were available:

___	1. Membership on an active unit planning committee	13.7
___	2. Workshops and seminars operated by visiting personnel (e.g. from a University or a provincial department of education)	15.8
___	3. Workshops and seminars operated by local personnel	57.9
___	4. Conferences on outdoor education with expert speakers, etc.	16.8
___	5. University courses in outdoor education	14.7
___	6. Availability of current books and journals on outdoor education	13.7
___	7. Observation of lessons demonstrating the implementation of outdoor education	63.2
___	8. Availability of model units prepared specifically for your grade level	58.9
___	9. Other ______________________________	4.2

Comments: ______________________________

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SECTION F - PERSONAL DATA

1. a) Students you are presently teaching. (Circle "yes" or "no" for **each** division.)

Kindergarten	1. yes	7.4
Grades I - III	1. yes	28.4
Grades IV - VII	1. yes	43.2
Grades VIII - IX	1. yes	27.4
Grades X - XII	1. yes	23.2

b) If you teach one class of students for more than 75% of your teaching time, circle "1 general". If you teach one class of students less than 75% of the time, circle the subject you spend most scheduled time teaching.

1)	General	44.2
2)	Art	1.1
3)	Commercial	1.1
4)	Guidance	1.1
5)	Foreign Language	4.2
6)	Home Economics	2.1
7)	Industrial Arts	2.1
8)	Kindergarten	1.1
9)	Language Arts	7.4
10)	Mathematics	7.4
11)	Music	1.1
12)	Pysical Education	2.1
13)	Science	6.3
14)	Social Studies	2.1
15)	Special Education	3.2
16)	Other (Please Specify) ______________	8.4

2. a) Years of teacher training (Circle) 1 2 3 4 5 6 7

1: 7.4 2: 4.2 3: 9.5 4: 37.9 5: 31.6 6: 2.1 7: 1.1

b) Years of teaching experience as of September 1976 (Circle)

1)	5 or less	31.6
2)	6 - 10	29.5
3)	11 - 15	18.9
4)	16 - 20	9.5
5)	21 or more	6.3

3. Circle your teacher education route:

1)	Pre-school	2.1
2)	Elementary	46.3
3)	Secondary	31.6
4)	Other (Please Specify) ______________	18.9

4. a) Have you taken university courses related to outdoor education?

	1. Yes	2. No
	14.7	81.1

b) Have you attended in-services on outdoor education?

	1. Yes	2. No
	47.4	46.3

Comments: ______________________________

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The results of this survey will be reported to you. A copy of the study will be sent to the Yukon Regional Library.

Thank you very much for your help with this study.

D. Brekke

OUTDOOR EDUCATION OPINIONNAIRE FOR PARENTS AND/OR GUARDIANS OF SCHOOL STUDENTS OF WHITEHORSE

INTRODUCTION

This opinionnaire is designed to obtain your opinions on outdoor education as well as your children's involvement in outdoor education activities. Please indicate your real feelings and answer all questions. Feel free to comment on any section in the space provided.

Outdoor education: For the purpose of this study outdoor education means "teaching any part of the school program outside the school building, excluding regular physical education classes". Outdoor activities could include short nature walks, studies in or near the school yard, week-long canoe trips, trips to places like fire halls, bakeries, mines, territorial coucil or museums.

NOTE:
1) The opinionnaire can be answered together with your spouse if your opinions are the same, or singly if your opinions are different.
2) If possible, please return the opinionnaire to the school with your son or daughter within two school days.
3) This opinionnaire will take about 15 minutes of your time.

SECTION A - PERSONAL DATA

1. Please circle ("yes" or "no") depending on whether or not you have child(ren) in each division (5 circles).

Kindergarten	1.	yes	8.3
Grades I - III	1.	yes	28.6
Grades IV - VII	1.	yes	78.6
Grades VIII - IX	1.	yes	51.9
Grades X - XII	1.	yes	30.1

2. a) Has/have your child(ren) been involved in outdoor education activities that were less than ½ day in length? (Circle)

   b) Has/have your child(ren) been involved in outdoor education activities of ½ day or more in length? (Circle)

SECTION B - VALUES OF OUTDOOR EDUCATION

Circle the number that shows how much you agree or disagree with each statement.	Strongly Disagree 1	Disagree 2	Neutral or No Opinion 3	Agree 4	Strongly Agree 5
1. Outdoor education should be part of the program of studies at some grade levels	3.9	10.7	3.4	37.4	36.4
2. Outdoor education should be part of the program of studies at all grade levels	2.4	6.8	4.4	35.9	46.4

	Strongly Disagree 1	Disagree 2	Neutral or no Opinion 3	Agree 4	Strongly Agree 5
3. Schools should offer opportunities for students to experience outdoor recreation such as hiking, canoeing and taking care of themselves in the outdoors during regular school hours	4.9	6.8	4.4	40.8	40.8
4. Students should have the opportunity to study directly the effects of human activities like road construction, pipeline construction or mining on the environment so they can make reasonable judgements on environmental issues (i.e. balancing good and bad effects of present methods of development)	3.9	5.8	6.8	44.2	37.9
5. Outdoor activities make classroom learning more meaningful	1.5	3.4	8.7	36.9	45.1

NOTE: Whether or not you or your children have been involved in outdoor education activities, please answer these items as outlined, based on the definition on page 1. For the next three questions only, circle (3) if you find outdoor activities and classroom activities of equal value.

In general:

	Strongly Disagree 1	Disagree 2	Neutral or no Opinion 3	Agree 4	Strongly Agree 5
6. outdoor activities are better than classroom activities for increasing students' awareness and concern for the environment	2.9	8.3	32.0	35.9	16.0
7. outdoor activities provide better opportunities than classroom activities for improving students' understandings of others	2.9	13.1	33.5	34.0	12.1
8. outdoor activities provide better opportunities than classroom activities for growth in such areas as cooperativeness, judgements and responsibility	2.9	10.7	35.9	31.1	15.0
9. I believe that outdoor activities can be used in more than two subjects in the present school program	2.4	6.8	21.8	46.1	17.5

Comments: ______________________________

____

____

SECTION C - AMOUNT OF OUTDOOR EDUCATION ACTIVITIES

1. If outdoor education is considered to be valuable and there are sufficient teachers ready to carry out a more extensive program, in four grades only, state the four grades in which you feel the most benefit would be gained from outdoor education activities (Kindergarten to Grade 12).

K	1	2	3	4	5
12.0	12.7	11.2	18.0	18.8	26.8

6	7	8	9	10	11	12
56.4	52.0	46.8	42.8	25.6	16.4	14.4

2. If it is possible to have outdoor education activities in each grade, write the total number of school days (time equivalent, not necessarily full days) you think should be spent on outdoor education activities for each of the following grades during the school year. (For students on the semester system, consider the time to be spent on outdoor education based on a full school year.)

There are approximately 190 school days in the school year.

Grade		Number of school days to be Spent Outdoors		
Kindergarten		24.795	23.54	(S.D.)
Grade III		22.434	18.97	(S.D.)
Grade VI	Mean	24.945	19.79	(S.D.)
Grade IX		26.342	20.84	(S.S.)
Grade XII		26.477	21.39	(S.D.)

Comments: ______________________________

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FINAL QUESTION

This questionaire represents the opinions of the following parent(s) and/or guardian(s):

1. Male	2. Female	3. Both
10.7	35.0	47.1

The results of this survey will be reported to you. A copy of the study will be sent to the Yukon Regional Library.

Thank you very much for your help with this study.

D. Brekke

OUTDOOR EDUCATION OPINIONNAIRE FOR
GRADES 9 AND 12 STUDENTS OF WHITEHORSE

INTRODUCTION

This opinionnaire is designed to obtain your opinions on outdoor education. Your involvement in outdoor education activities will also be determined. Please indicate your real feelings and answer all appropriate questions. Feel free to write in your comments for any section in the space provided.

Outdoor education: Outdoor education means "teaching any part of the school program outside the school building, excluding regular physical education classes". (Consider orienteering as outdoor education.) Outdoor activities could include short nature walks, studies in or near the school yard, week-long canoe trips, trips to places like fire halls, bakeries, mines, territorial council, or museums.

SECTION A - PERSONAL DATA

1. Please circle the grade you are in

Grade	9	12
	67.6	32.4

2. a) Have you been involved in outdoor education activities of less than ½ day in length? (Circle)

Yes: 89.1 No: 10.6

b) Have you been involved in outdoor education activities of more than ½ day in length? (Circle)

Yes: 77.9 No: 20.8

c) In your last school year, how many days did you spend on outdoor education activities?

Mean: 2.91 S.D.: 1.66

3. Please circle your sex:

Male: 47.5 Female: 51.8

SECTION B - VALUES OF OUTDOOR EDUCATION

Circle the number that show how much you agree or disagree with each statement.

	Strongly Disagree 1	Disagree 2	Neutral or no Opinion 3	Agree 4
1. Outdoor education should be part of the program of studies at some grade levels	5.1	8.7	5.1	35.3
2. Outdoor education should be part of the program of studies at all grade levels	1.2	8.3	10.9	29.5
3. Schools should offer opportunities for students to experience outdoor recreation such as hiking, canoeing and taking care of themselves in the outdoors during regular school hours	.6	1.3	3.5	28.8
4. Students should have the opportunity to study directly the effects of human activities like road construction, pipeline construction or mining on the environment. They will then be better able to make reasonable judgements on environmental issues (i.e. balancing good and bad effects of presnet methods of development.)	1.3	3.8	13.1	37.5

	Strongly Disagree 1	Disagree 2	Neutral or no Opinion 3	Agree 4	Strongly Agree 5
5. Outdoor activities make classroom learning more meaningful	1.3	2.6	10.9	35.3	46.8

NOTE: Whether or not you have been involved in outdoor education activities, answer these items as outlined below, based on the definition on page 1. For the next three questions only, circle (3) if you consider outdoor activities and classroom activities of equal value.

In general:

6. outdoor activities are better than classroom activities for increasing student' awareness and concern for the environment	1.3	3.8	18.3	32.7	42.9
7. outdoor activities provide better opportunities than classroom activities for improving students' understandings of others	1.0	6.7	27.6	32.7	31.1
8. outdoor activities provide better opportunities than classroom activities for growth in such areas as cooperativeness, judgements and responsibility	1.0	4.2	22.4	35.3	35.6
9. I believe that outdoor activities can be used in more than two subjects in school	1.0	2.2	17.6	34.0	43.9

Comments: ________________________________

____

____

SECTION C - AMOUNT OF OUTDOOR EDUCATION ACTIVITIES

1. If outdoor education is considered to be valuable and there are sufficient teachers ready to carry out a more extensive program in four grades only, state the four grades in which you feel the most benefit would be gained from outdoor education activities. (Note below before answering.)

Grade 9 - Choose from Kindergarten to Grade 9

Grade 12- Choose from Kindergarten to Grade 12

K 6.4 1 12.2 2 9.9 3 14.1 4 18.9 5 28.2 6 51.0

7 58.0 8 52.9 9 71.2 10 62.4 11 62.4 12 61.4

2. If it is possible to have outdoor education activities in each grade, write the total number of school days (time equivalent, not necessarily full days) you think should be spent on outdoor education activities for each of the following grades during the school year. (If the school is organized on the semester system, consider the total school year.)

There are approximately 190 school days in the school year.

Grade		Number of school Days to be Spent Outdoors		
Kindergarten		30.5	26.0	(S.D.)
Grade III		27.5	22.3	(S.D.)
Grade VI	Mean	27.7	20.8	(S.D.)
Grade IX		29.9	22.8	(S.D.)
Grade XII (to be answered by Grade 12 students only)		30.0	23.3	(S.D.)

Comments: ______________________________

____

____

The results of this survey will be reported to you. A copy of the study will be sent to the Yukon Regional Library.

Thank you very much for your help with this study.

D. Brekke

YOUR FEELINGS ABOUT OUTDOOR EDUCATION (GRADE 6)

Please tell us how you feel about outdoor education. There are no right or wrong answers.

Ourdoor education activities could include orienteering, short nature walks, studies in or near the school yard, week-long excursions, and trips to places like fire halls, bakeries, mines, territorial council or museums.

SECTION A - ABOUT MYSELF

1. a) Have you been involved in outdoor education activities of ½ day or less in length? (Circle)

Yes: 93.2 No: 6.4

b) Have you been involved in outdoor education activities of more than ½ day in length? (Circle)

Yes: 83.8 No: 16.2

c) In Grade V, how many days (1 day 5 hours) did you spend on outdoor activities?

Mean: 4.27 S.D.: 3.43

2. I am a: (Circle) Boy: 54.5 Girl: 45.1

SECTION B - VALUES OF OUTDOOR EDUCATION

What's your opinion? Circle the number that shows how much you agree or disagree with each statement.

	Strongly Disagree 1	Disagree 2	Neutral or no Opinion 3	Agree 4	Strongly Agree 5
1. I think we should sometimes go outside for several subjects (e.g. science experiments, poem writing, nature art)	2.3	1.1	6.0	46.2	44.4
2. Most grades should have some outdoor activity	.8	.8	3.4	32.7	62.0
3. Grades K - 6 should all have some outdoor activities	0	1.1	7.1	36.8	54.9
4. Schools should help teach us outdoor skills like hiking, canoeing and taking care of ourselves in the outdoors	.8	4.9	12.4	22.2	59.8
5. Some changes that man makes to the out-of-doors are good and some changes are bad. We should go outside to see these changes and decide for ourselves their good points and bad points	4.1	5.3	15.8	42.1	32.7
6. Using classroom learning combined with seeing real things is better than classroom learning by itself	1.9	3.4	6.8	24.4	63.2
7. Outdoor education activities are better than classroom activities for learning to better understand other students and teachers	2.3	3.0	14.3	43.6	36.5
8. Outdoor education activities give more chances to learn responsibility and cooperativeness than classroom activities	2.3	3.5	11.3	27.1	55.6

Comments: ______________________

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____

The results of this study will be reported to you. A copy of the study will be sent to the Yukon Regional Library.

Thank you very much for your help with this study.

D. Brekke